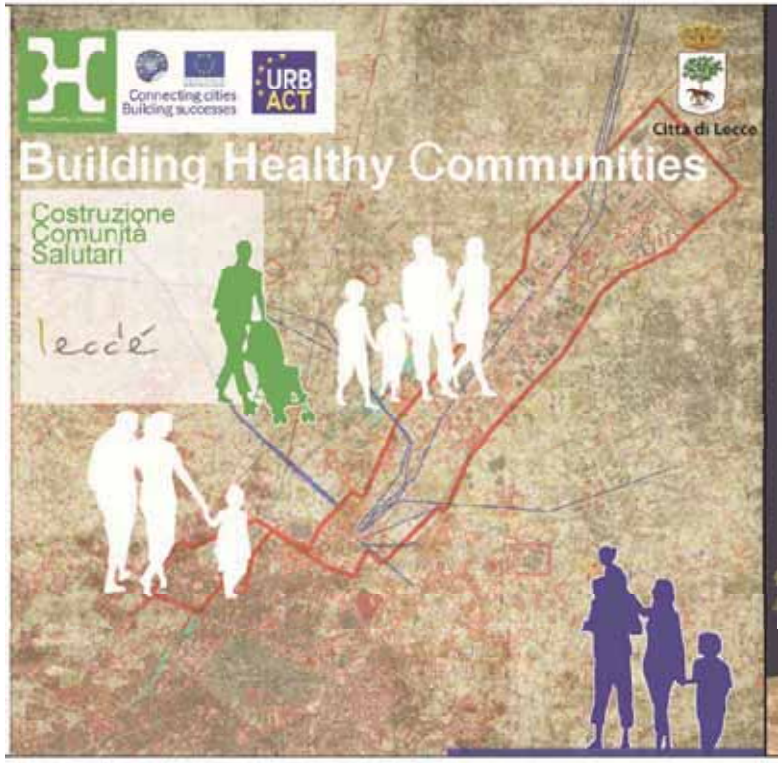
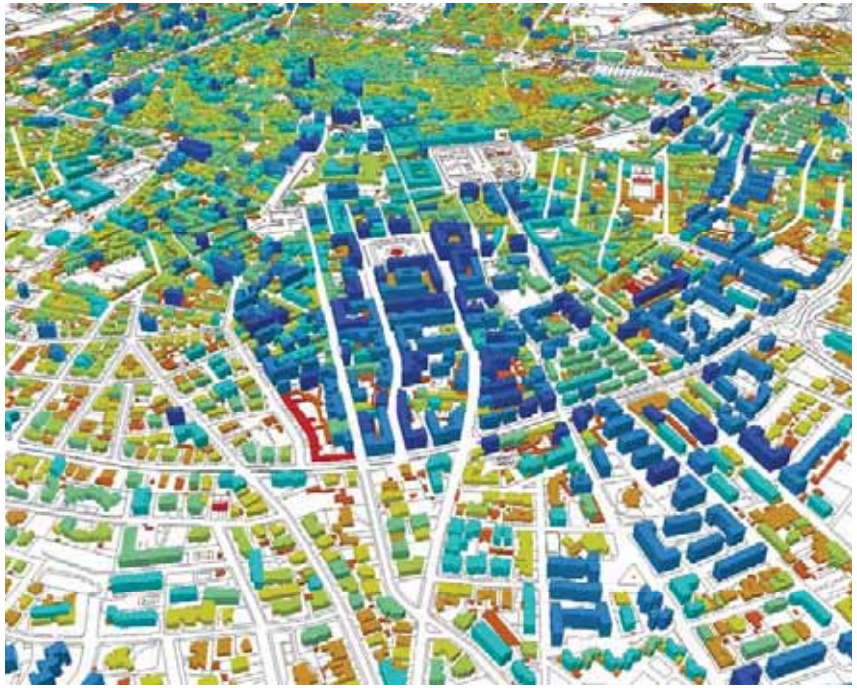
AN URBACT II PROJECT

UNIVERSITÀ DEL SALENTO

Lecce 15 Marzo 2011
Castello Carlo V





BHC LECCE URBAN REGENERATION – URBAN PLANNING AND ENVIRONMENTAL SUSTAINABILITY

S. Di Sabatino, S. Cordella and LECCE Local Support Group

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Background

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- It has been recognized that the concept of sustainable development is an evolving, debatable term

- The most widely known definition of sustainable development comes from the Brundtland Commission, which defined sustainable development as

"Development that meets the needs of the present without compromising the ability of future generations to meet their own needs"

However, there are many more definitions possible

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Background

- The term sustainable development goes beyond the boundaries of science and business development and trade to include human development, values, and differences in cultures

Many organizations are referring to sustainable human development as opposed to sustainable development in order to emphasize issues such as the importance of gender equality, participation in decision-making processes, and access to education and health

Cities/ Urban environments have become the focal points of these components as major consumers and distributors of goods and services

Many cities tend to be large consumers of goods and services, while draining resources out of external regions that they depend on. As a result of increasing consumption of resources, and growing dependencies on trade, the ecological impact of cities extends beyond their geographic locations

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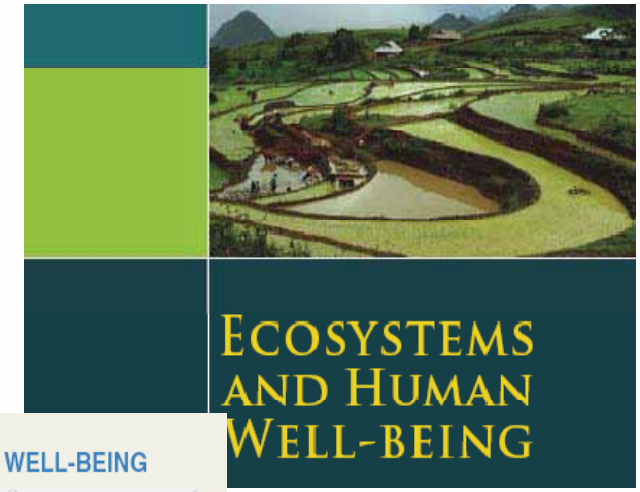
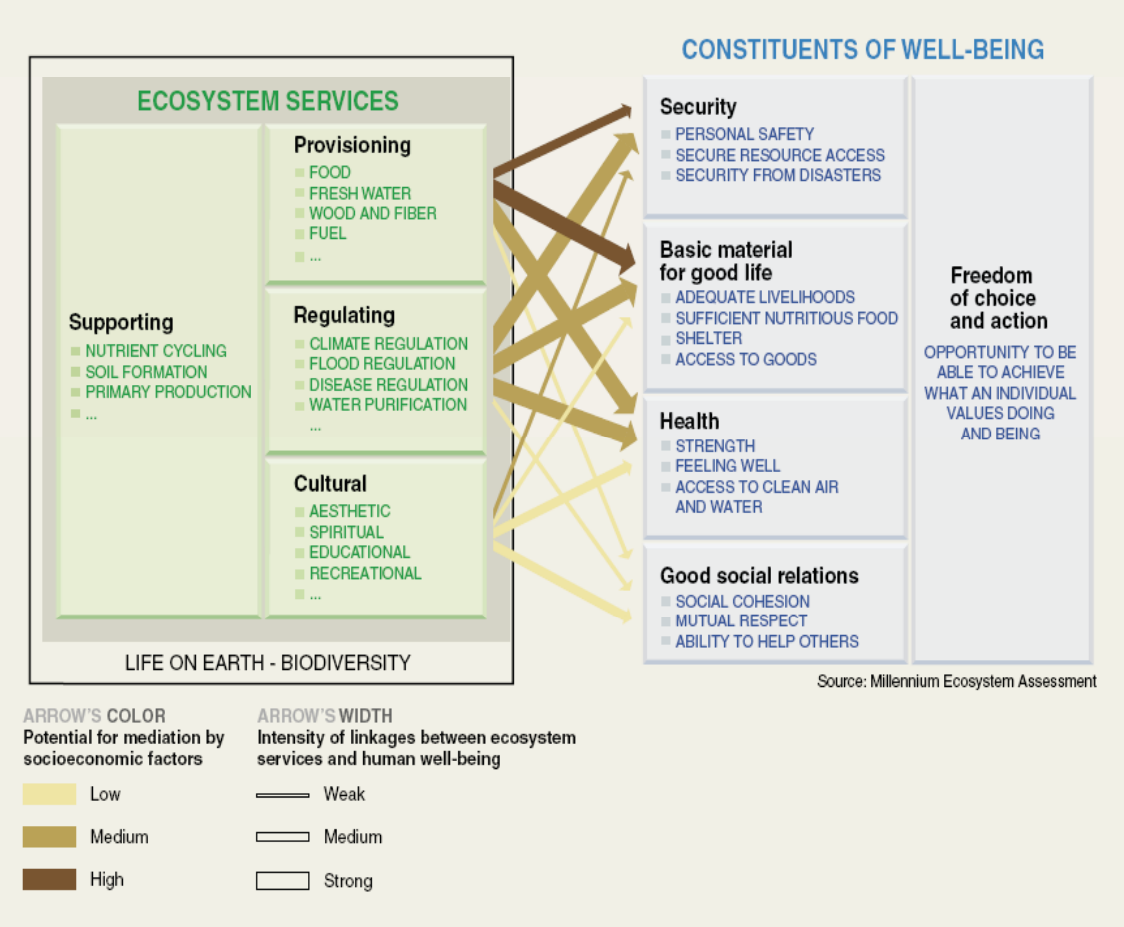
Urban Environment

As a Complex Ecosystem





People/Citizens are responsible for its transformation though they will benefit ot it!

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Why Building Healthy Communities (BHC)?

"Health is important for the wellbeing of individuals and society, but a healthy population is also a prerequisite for economic productivity and prosperity. The Lisbon strategy underlines the importance of health as a key factor for economic growth. However there is a limited awareness of the contributions that a "healthy" urban policy can make to tackle challenges in health"

http://urbact.eu/en/projects/quality-sustainable-living/building-healthy-communities-bhc/homepage/

People's health needs to be interpreted in a broader way

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› The Past

› The future: Sustainable Urban Planning

- Bottom-up approach (the role of shared participation with citizens)
- Multi-disciplinarity
- Creativity & Innovation
- Technical expertise
- Scientific evidence – Experts (Academic & Institutional research)

Some initial considerations

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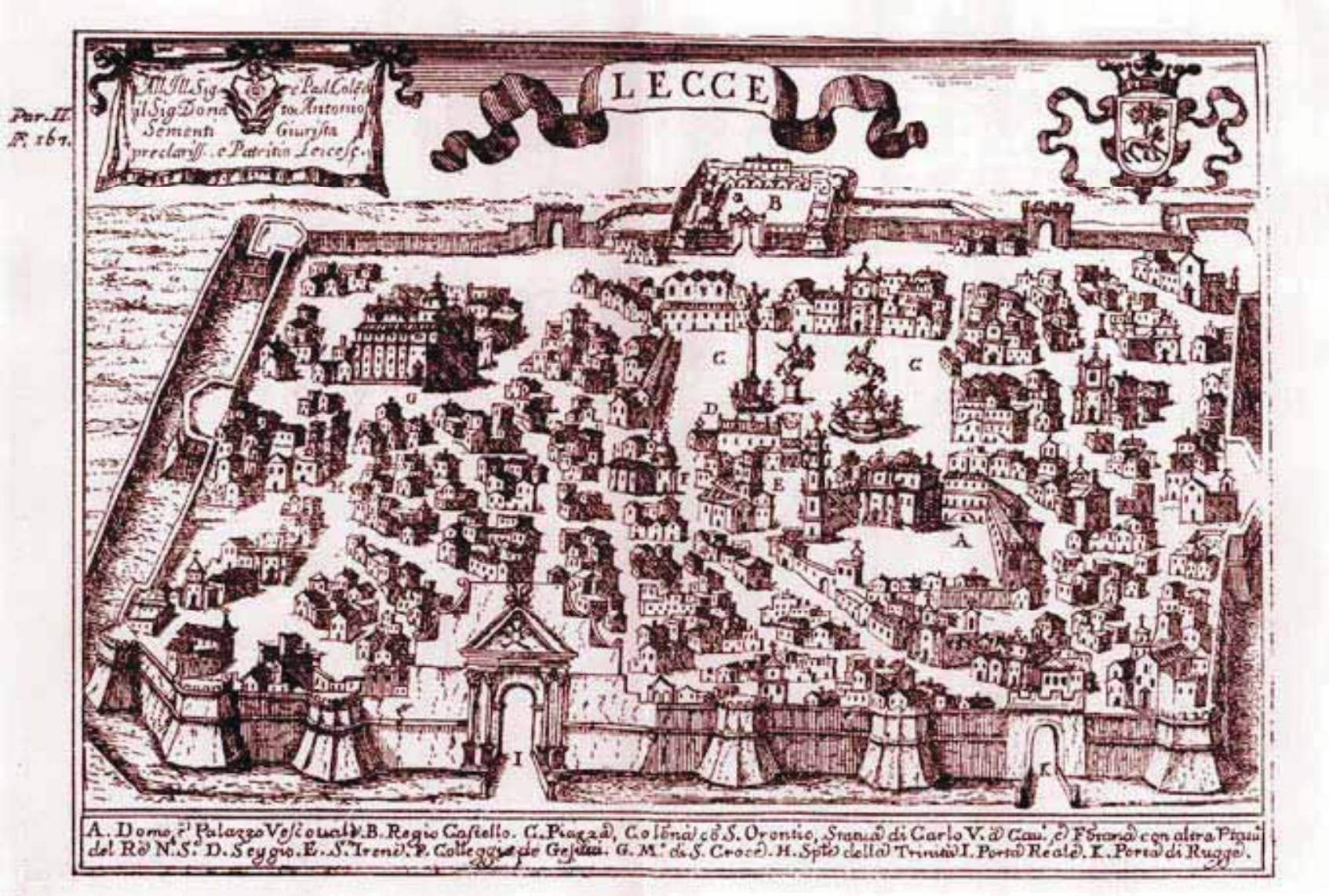
› Lecce is nowadays famous in the world (e.g. USA today, 18 Feb 2011) for its historical centre and its pleasant life style

› Urban regeneration, requalification activities initiated in the late ’80 and concretized in the ’90 and until very recent through a series of interventions such as the URBAN projects in the historical centre have been a “wise” and “successful” choice

› The city is now looking forward … towards the external neighborhoods (e.g. city outskirts, peripheral areas) with a new “eye” that includes both innovation and creativity but with a scientifically sound approach

THE OLD PAST



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THE RECENT PAST

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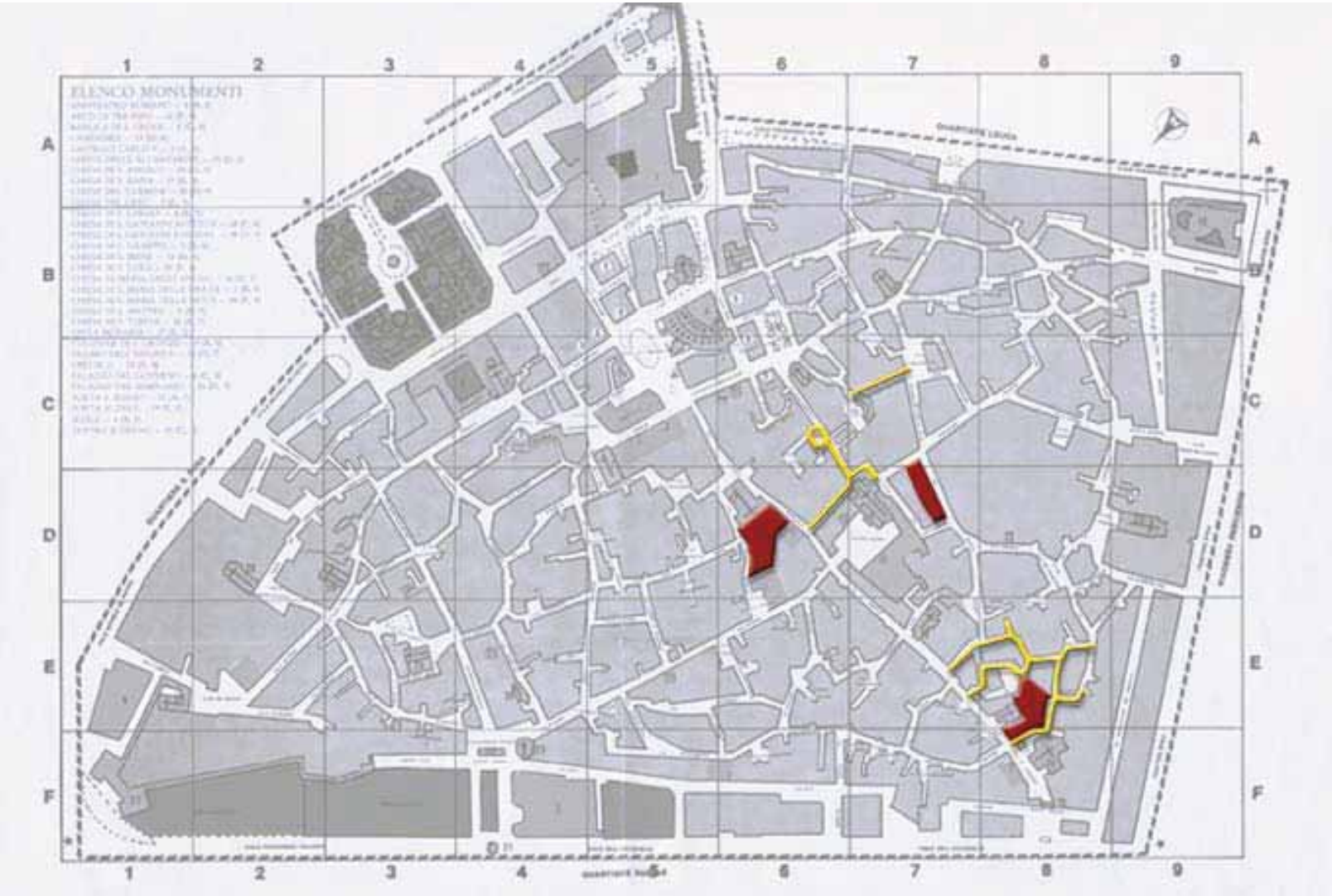

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PALAZZO TURRISI: The recent past

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PALAZZO TURRISI : The recent past

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Conservatorio S. ANNA: The recent past

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CONVENTO dei TEATINI: The recent past

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Roads pavement: The recent past

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Building Healthy Communities

LECCE MUNICIPALITY

ITALY

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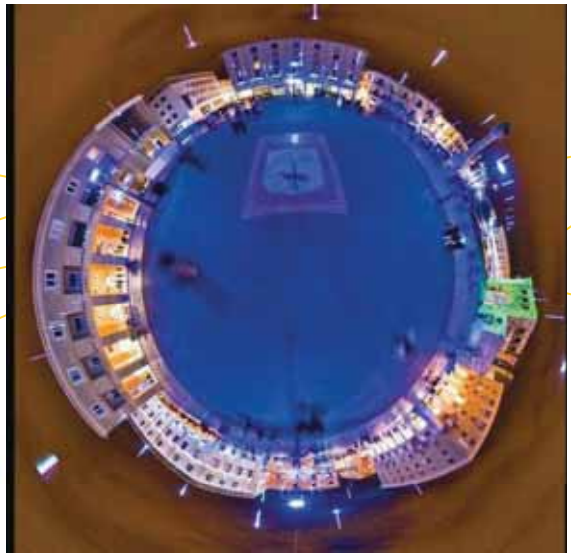
LOCAL ACTION PLAN (LAP)

"*Urban and Sub-urban re-qualification plans through target actions to remove aerial high tension cables with emphasis on city outlook improvement to reinforce citizen city good perception and use of public space*"

TRADITIONS



PROJECTED TOWARDS THE FUTURE

Photos by "*Maraca Fotografie*" - Lecce

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- Removal of and placing underground aerial high tension cables (ENEL) and data transmission cables (TELECOM)

- Two main areas: the **historical centre** where some interventions have been already made and the **neighbourhood** called " **zone 45** "

Why?

- To reduce the electromagnetic field linked to electromagnetic pollution. This especially high in the **target** zone 45 where an ENEL sub-station is present

- Aesthetic reasons reinforced by the high degradation of some buildings in the historical centre

- Regeneration and improvement of city outlook

- First step for future planning in the **zone 45 where new interventions are planned**

- Improvement of quality of life in this target zone / **SUSTAINABLE DEVELOPMENT**

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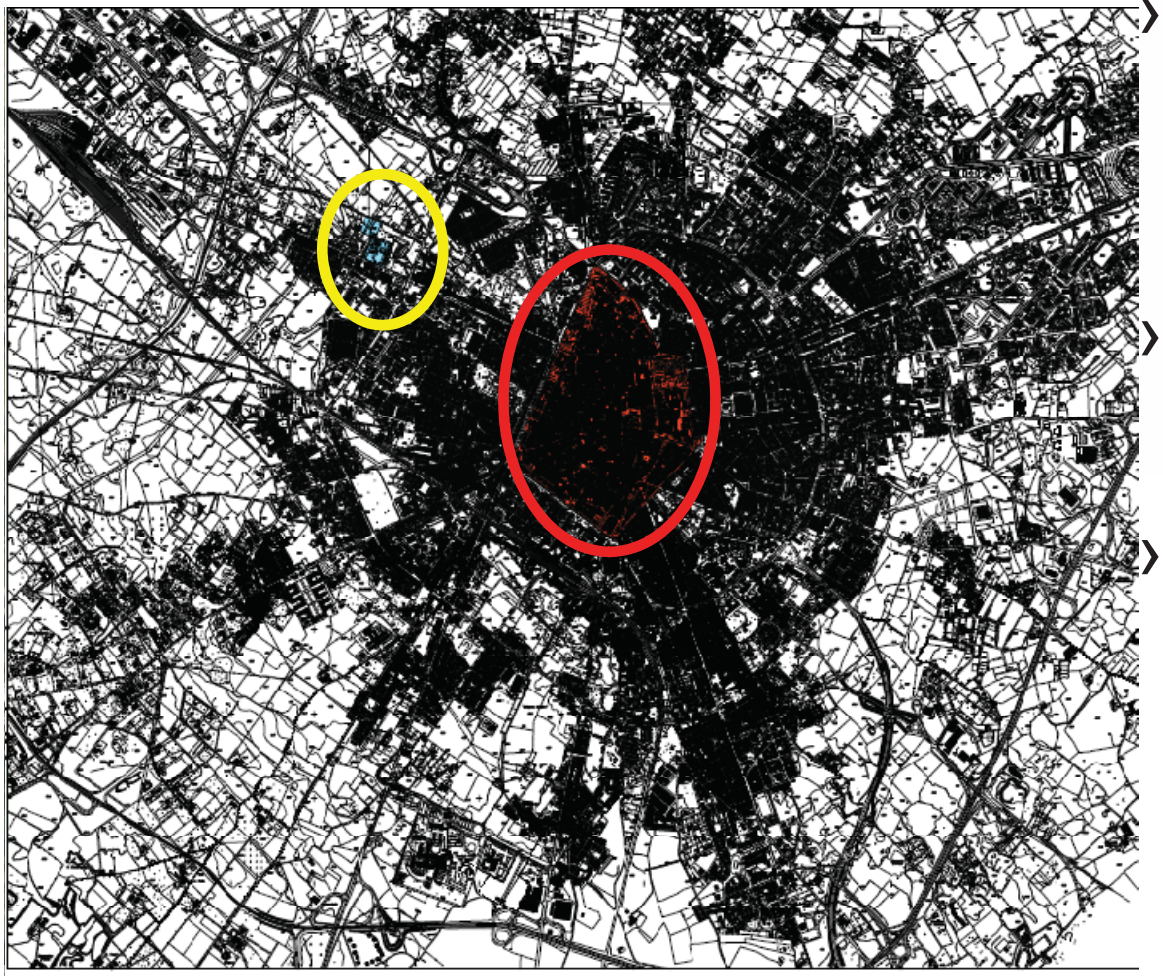
LECCE: geographical context



- Lecce: 40N, 18°E, it arises over almost flat terrain at about 12 km from the sea. It has about 100,000 inhabitants
- It has a ring-type structure with the core occupied by the historical centre
- Several neighbourhoods outside the historical centre, some of them t be "*regenerated /recovered*" both environmentally and structurally

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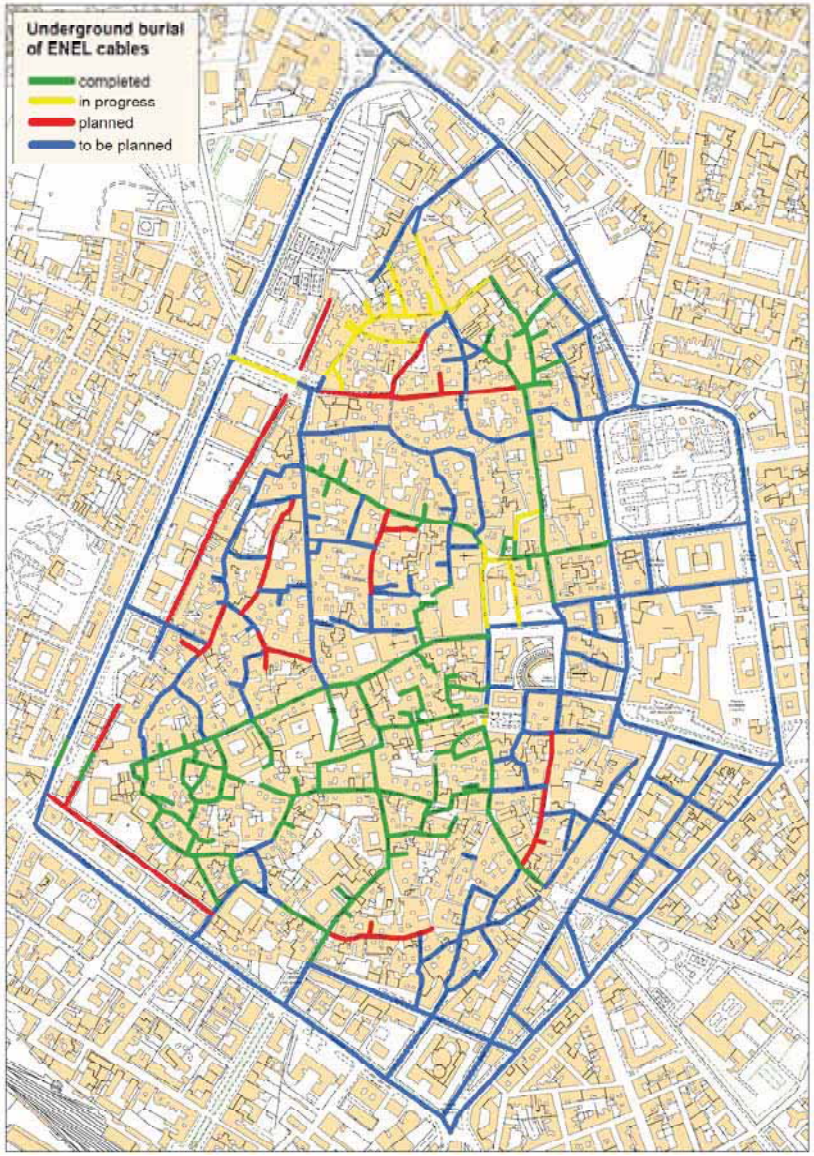

LECCE LAP

IN THE CONTEXT OF URBAN REGENERATION

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Electric cables: The present - BCH

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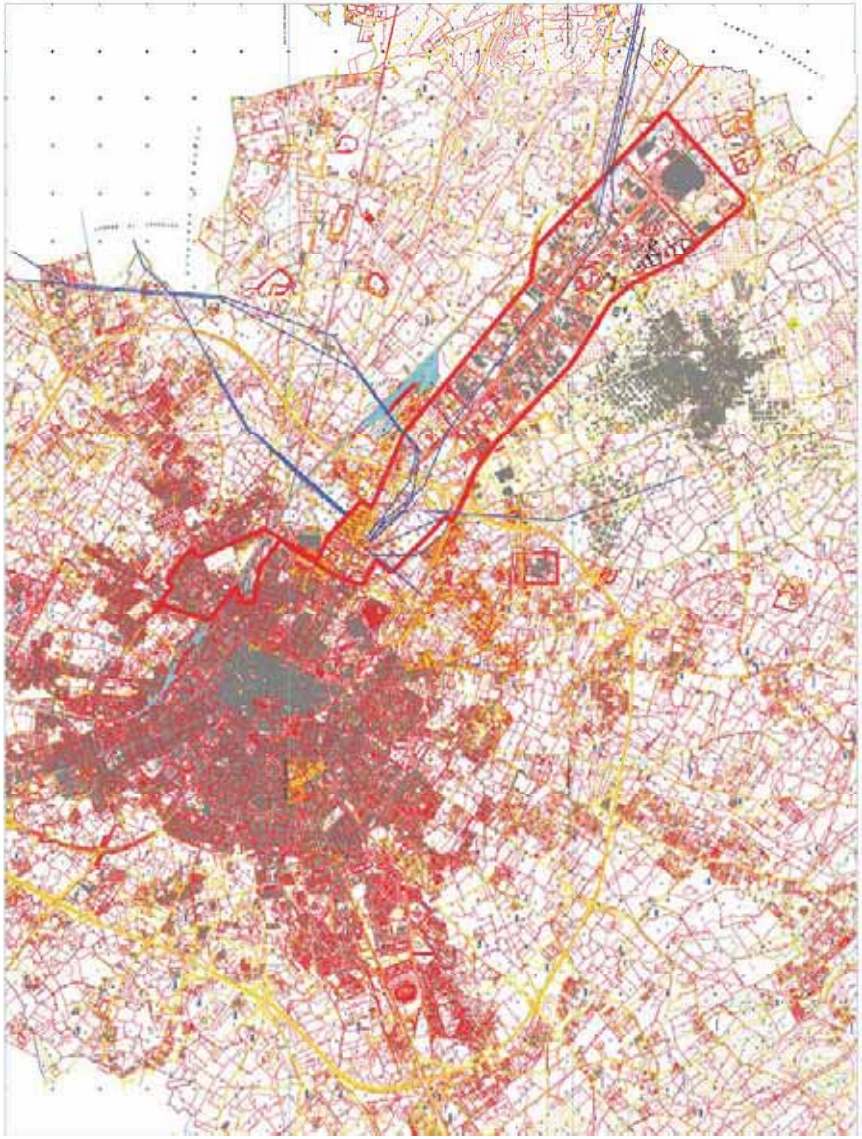

Future urban development in the city outskirts: towards the establishment of “healthy paths” connecting the past (historical centre) with the future city expansion, improvement, re-qualification…

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“Healthy paths”

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- The need to reconcile the historical centre with its outskirt

- The need to create a “links/connections” between existing but isolated projects : e.g. Marco Vito quarries reclamation project; recovery of the old Tobacco Manifacture Building and others

- The need of improving citizens’ health by creating new areas to be visited on foot, by bike etc. by enforcing new healthy habits

- To create a new economic impulse in those peripheral areas

Example of oldfashioned urban planning approach

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A single intervention does not mean much… if not put in a broader context!

Images by the Group of young Architects:
Benedetta Marangio; Tiziana Marra; Emanuela Marulli; Alessandro Pascali and Afrocarpentieri

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“HEALTHY PATHS”

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A healthy use of the environment

Images by the Group of young Architects

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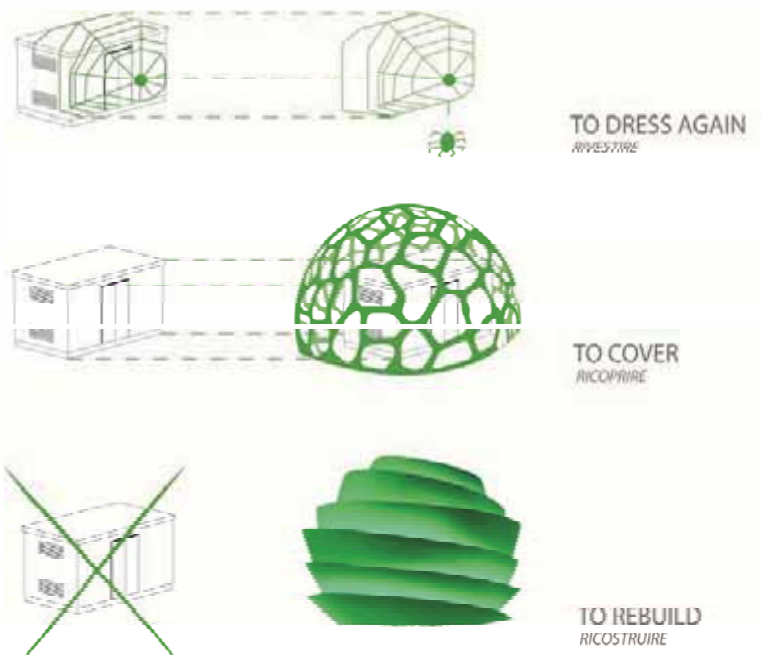
“HEALTHY PATHS: multi-disciplinary approach”



E.g. Creativity & Innovation without the context

- **Safety** (technical aspects)
- Respect of **native landascape / local** materials (e.g. type of trees and colours…)
- Attention to the **existing** urban context
- **Scientific evidences**: possible modification of the microclimate, pollution levels etc.
- Ability to find **sustainable&affordable** solutions based on knowledge

Images by the Group of young Architects

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“HEALTHY PATHS: multi-disciplinary approach”

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To Rebuild using “natural” or available materials

Creativity & Innovation with context

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Landuse changes affect the microclimate, individual buildings and trees may change flow and dispersion pattern… therefore modern urban planning in addition to the "shared citizens' participation" needs to be based on scientific evidence… the environment we live in, is influenced at various scales by those modifications

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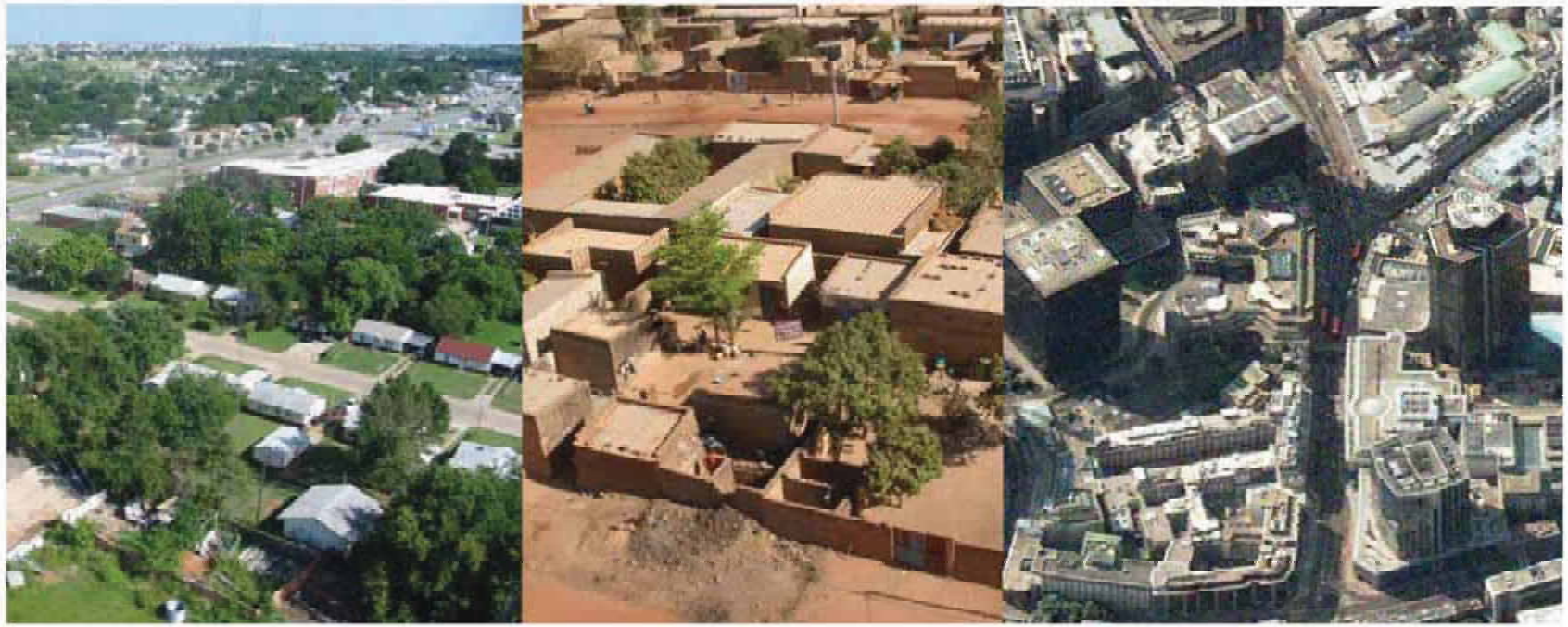
Causes of Urban Climates

Ultimately due to changes in heat, mass, momentum exchanges which result from

- Changes to the **surface morphology** (building shapes, packing)
- Changes in **surface cover** (materials)
- **Additional anthropogenic sources** of heat, water, other gases and particulates



The importance of the optimum choice of tree planting and type

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Street Canyon

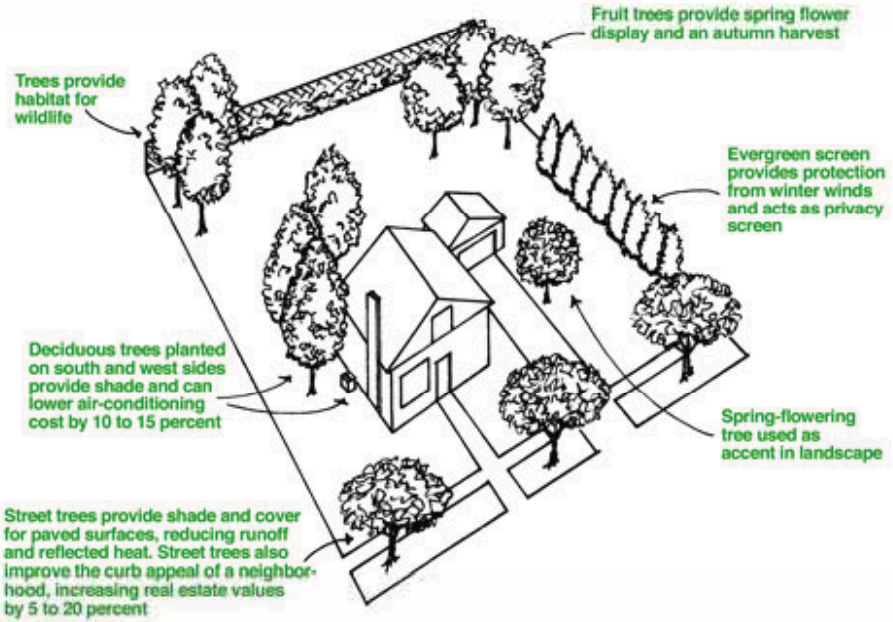
- Basic unit forming a city
- Where people and traffic are
- Geometries which influence air flow, turbulence fields and dispersion
- Where trees can be planted
- Widely examined configuration with numerous field, wind tunnel and numerical work published.

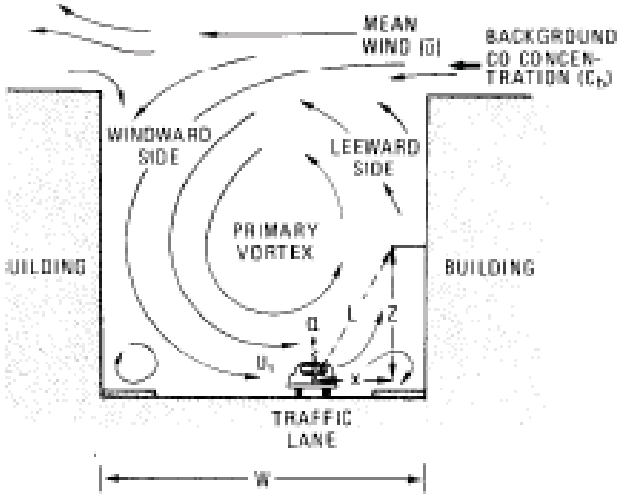
Trees

- Remove pollutants
- Release oxygen
- Offset communities' carbon footprint
- Reduce stormwater runoff
- Save energy
- Provide wildlife habitats
- Aesthetic benefit

Pollutant Dispersion

- Buildings act as obstacle to air flow.
- Reduced air exchange between canyon flow and roof-top.
- Accumulation of traffic-related pollutants.
- Placing of trees in street canyon can amplify pollutant concentrations at street level.
- Less ventilation, reduced dispersion and dilution, and increased blockage on already restricted air flow.





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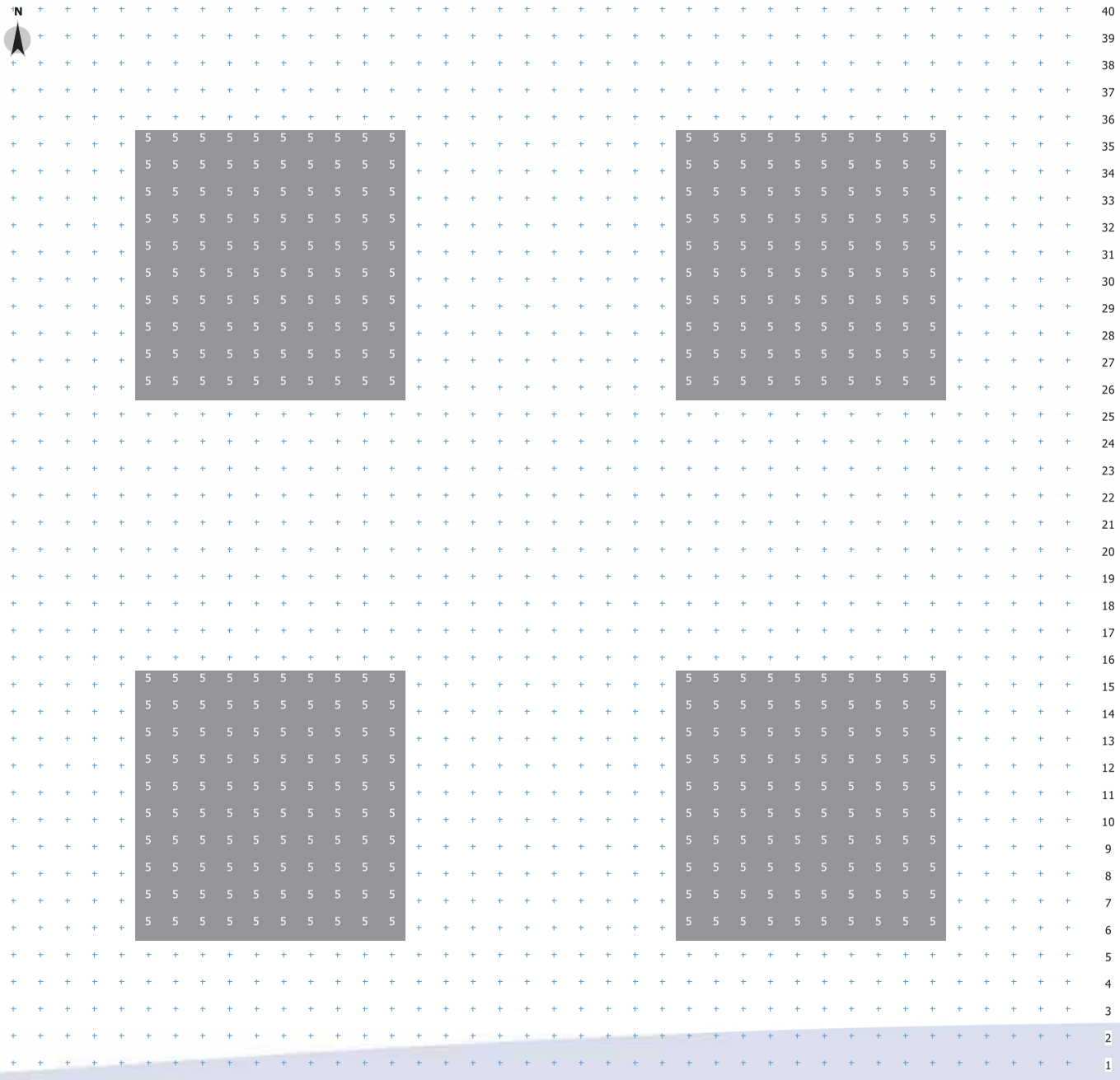

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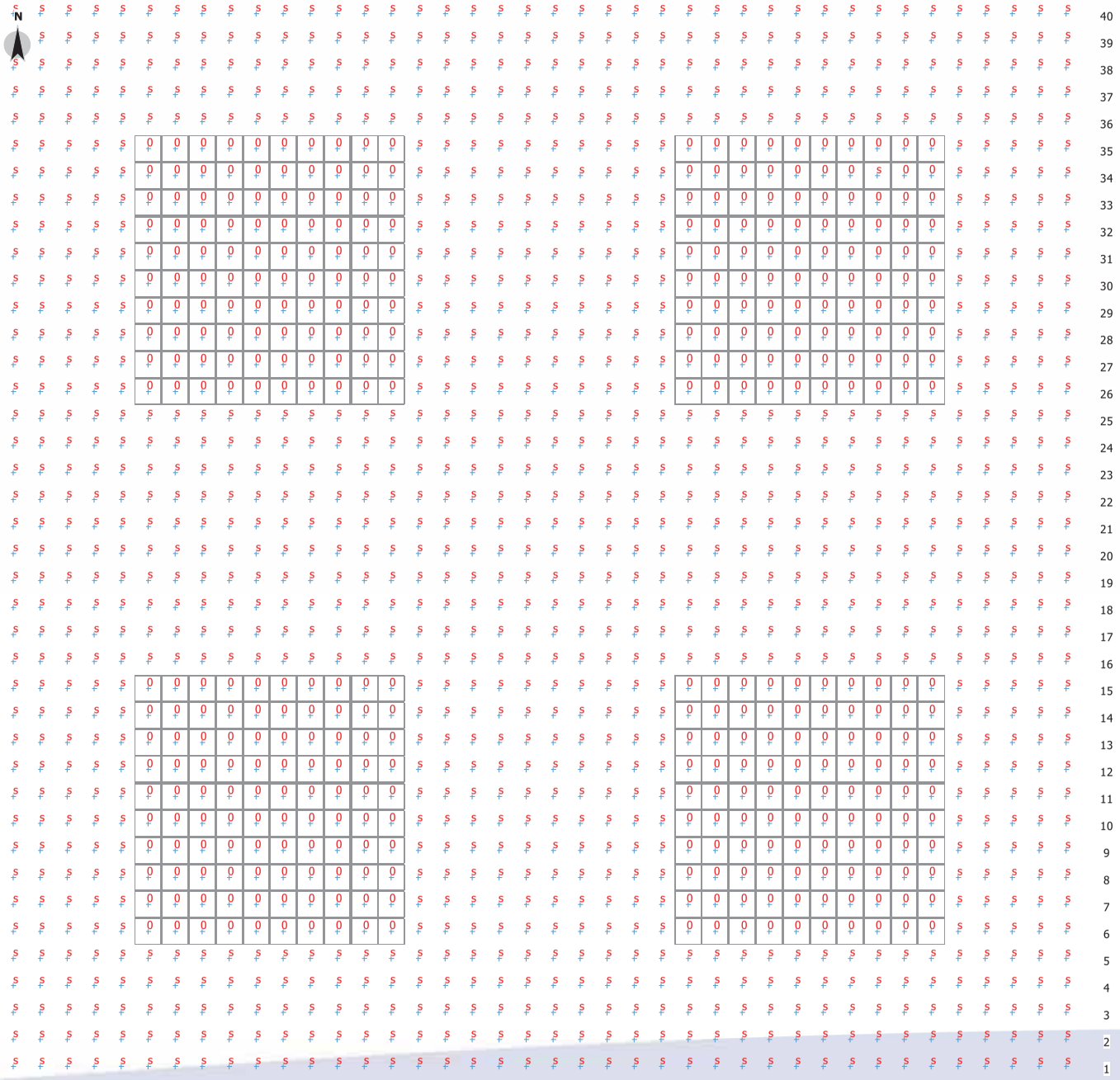

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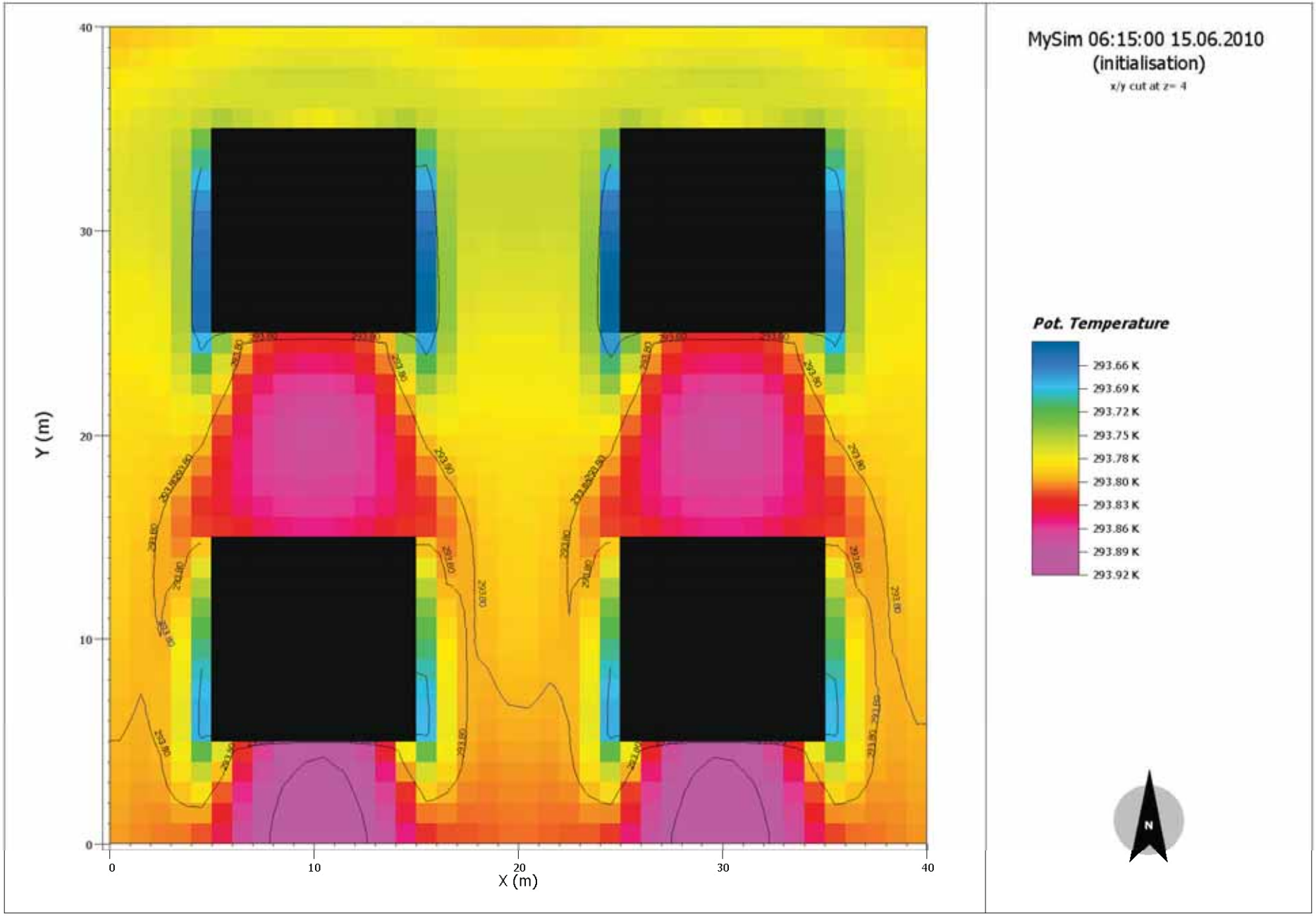

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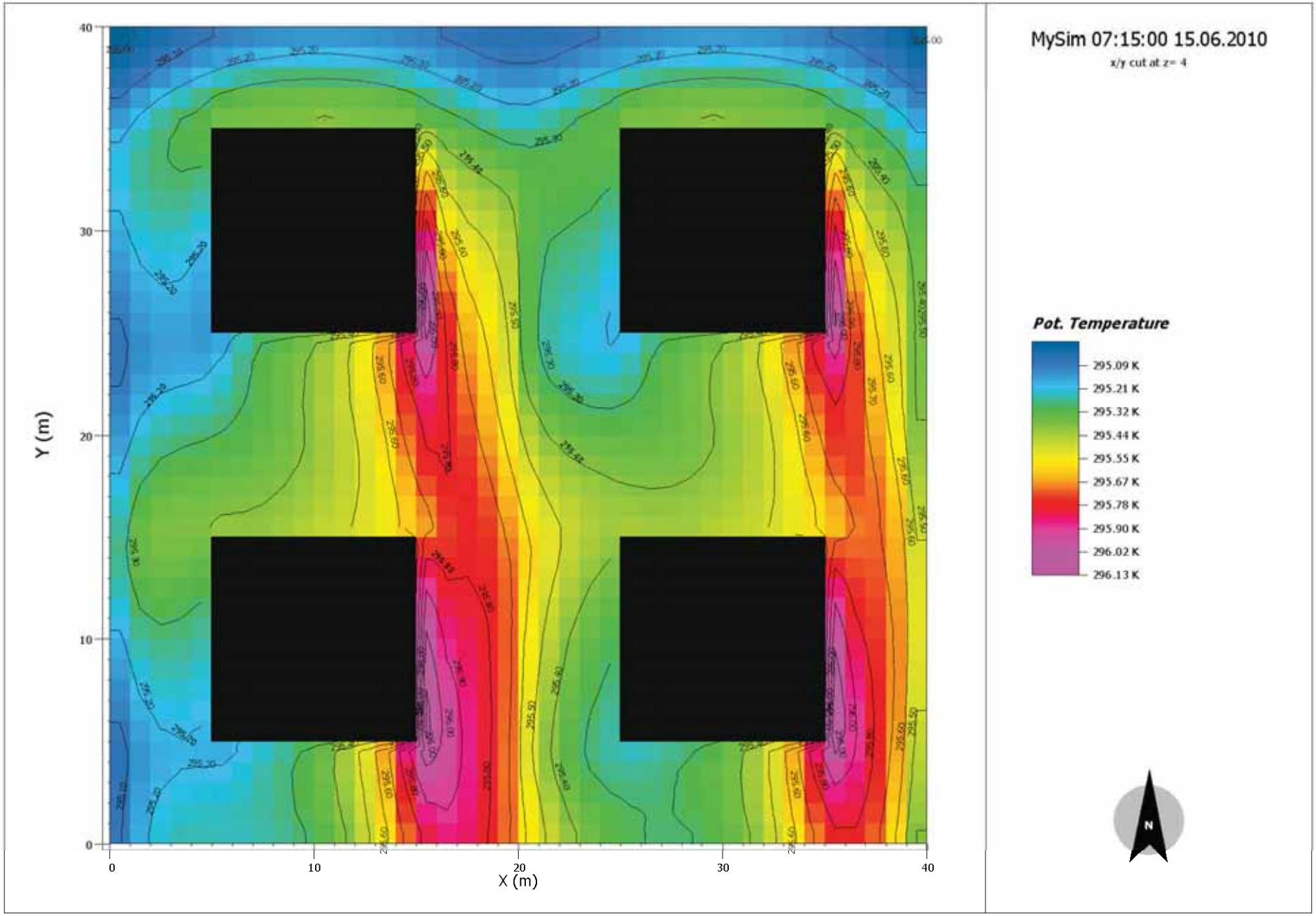

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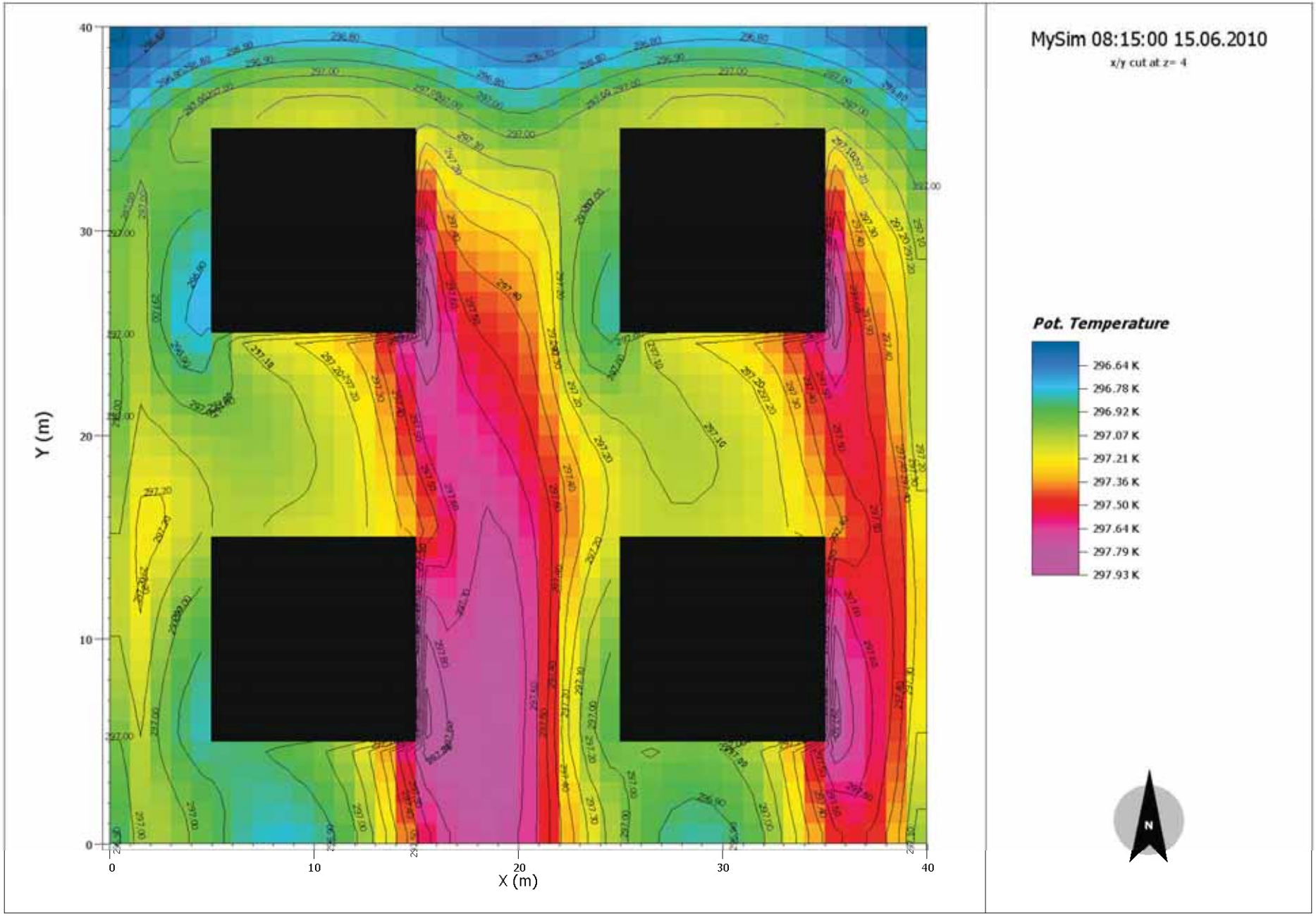

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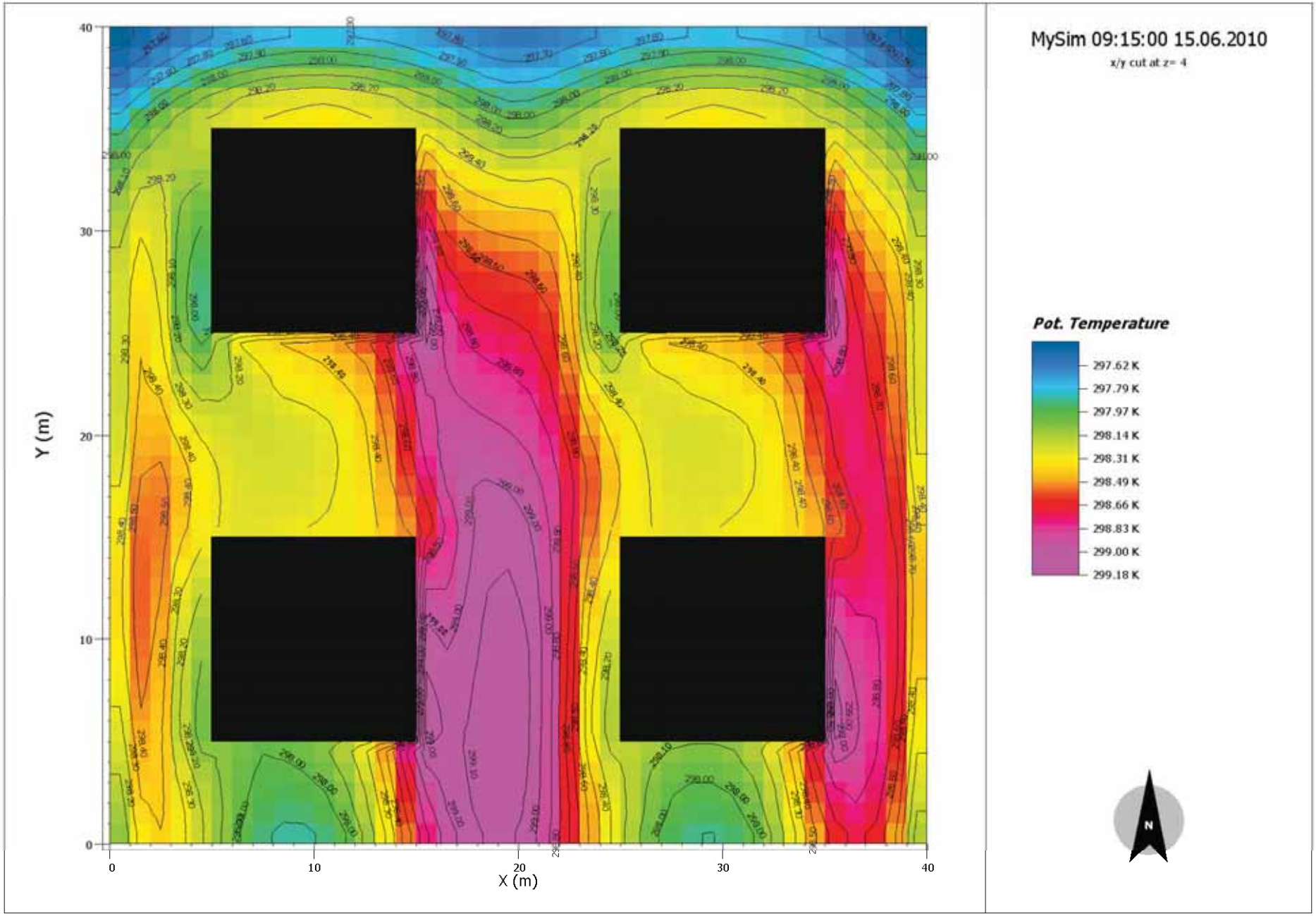

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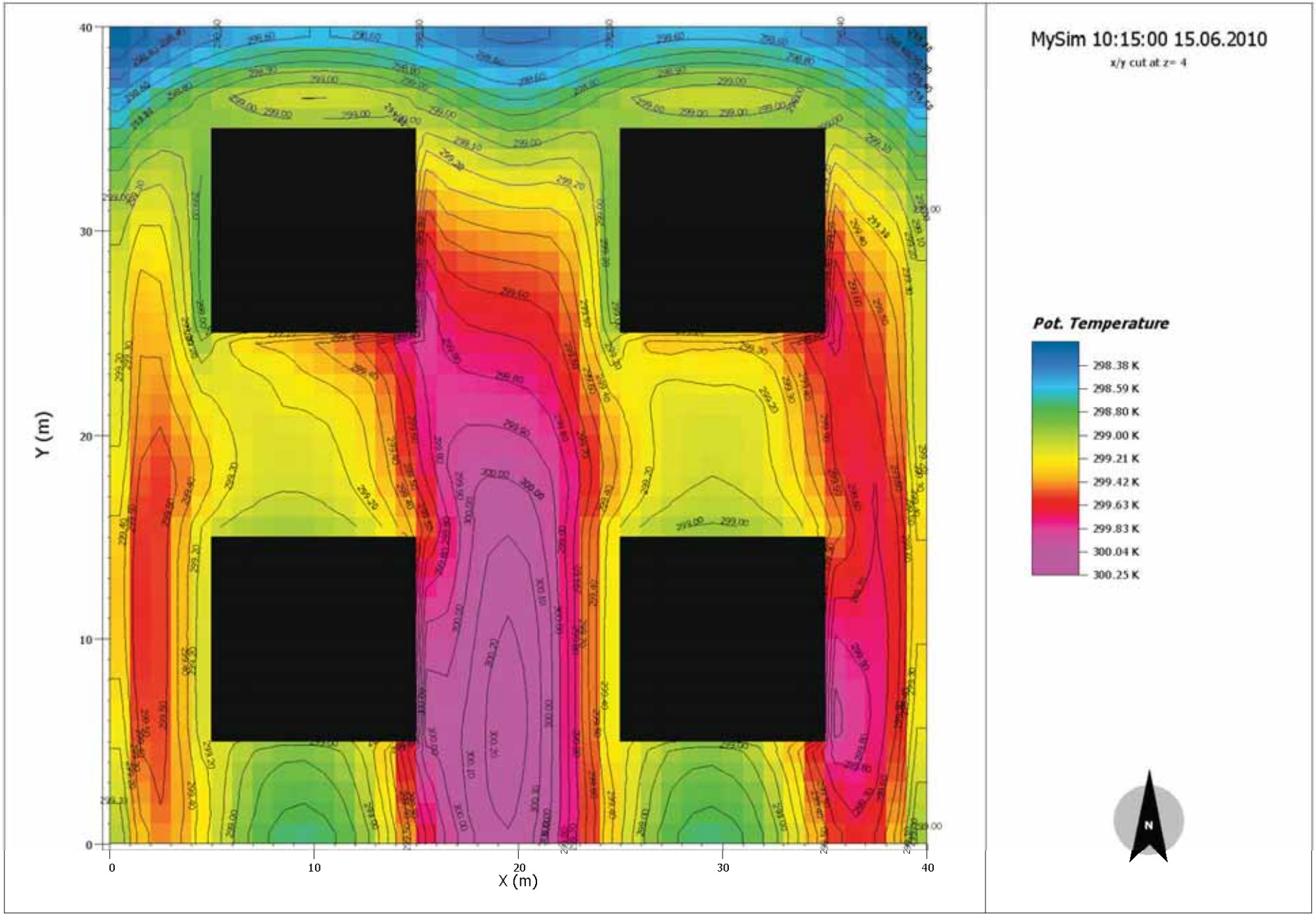

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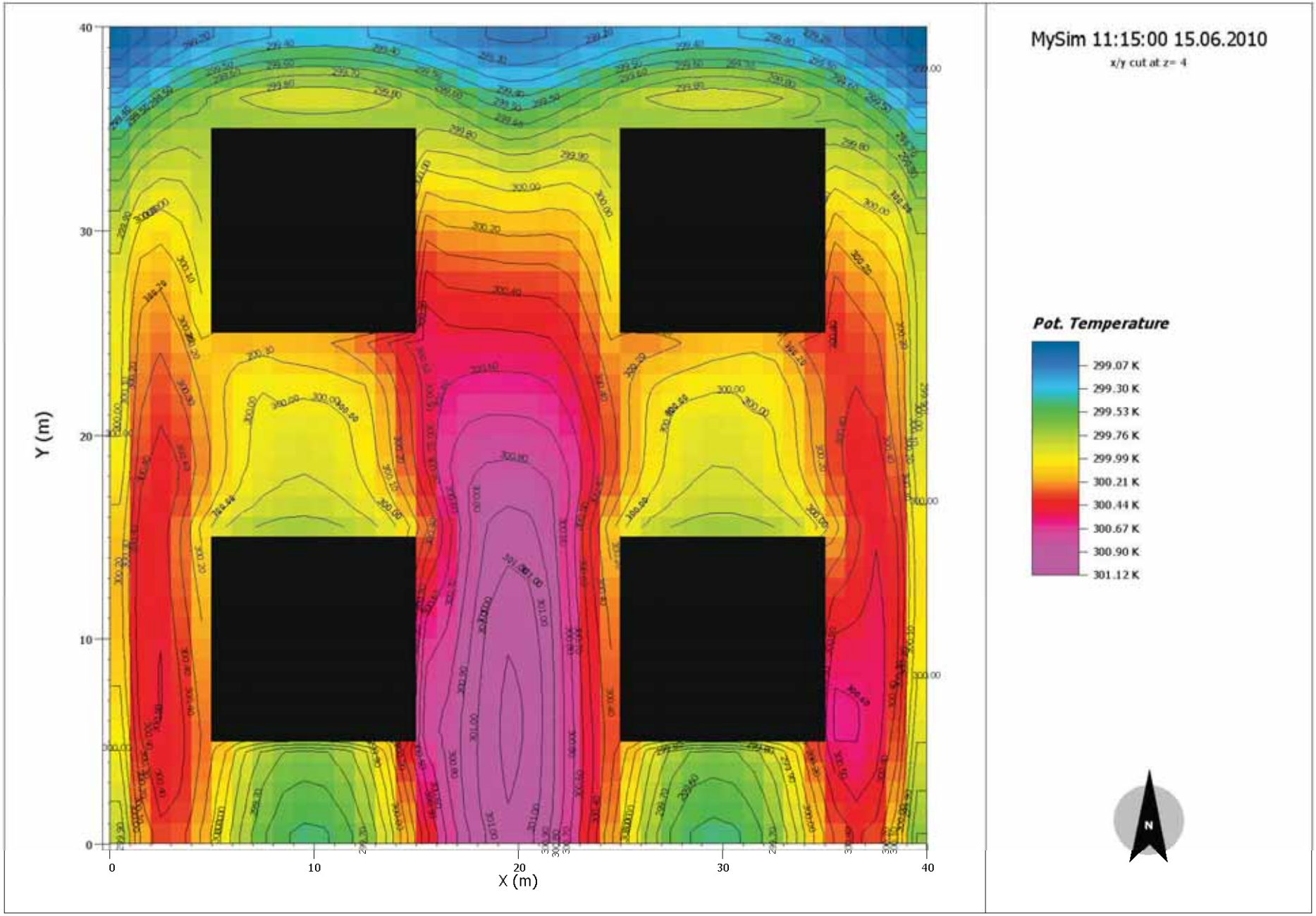

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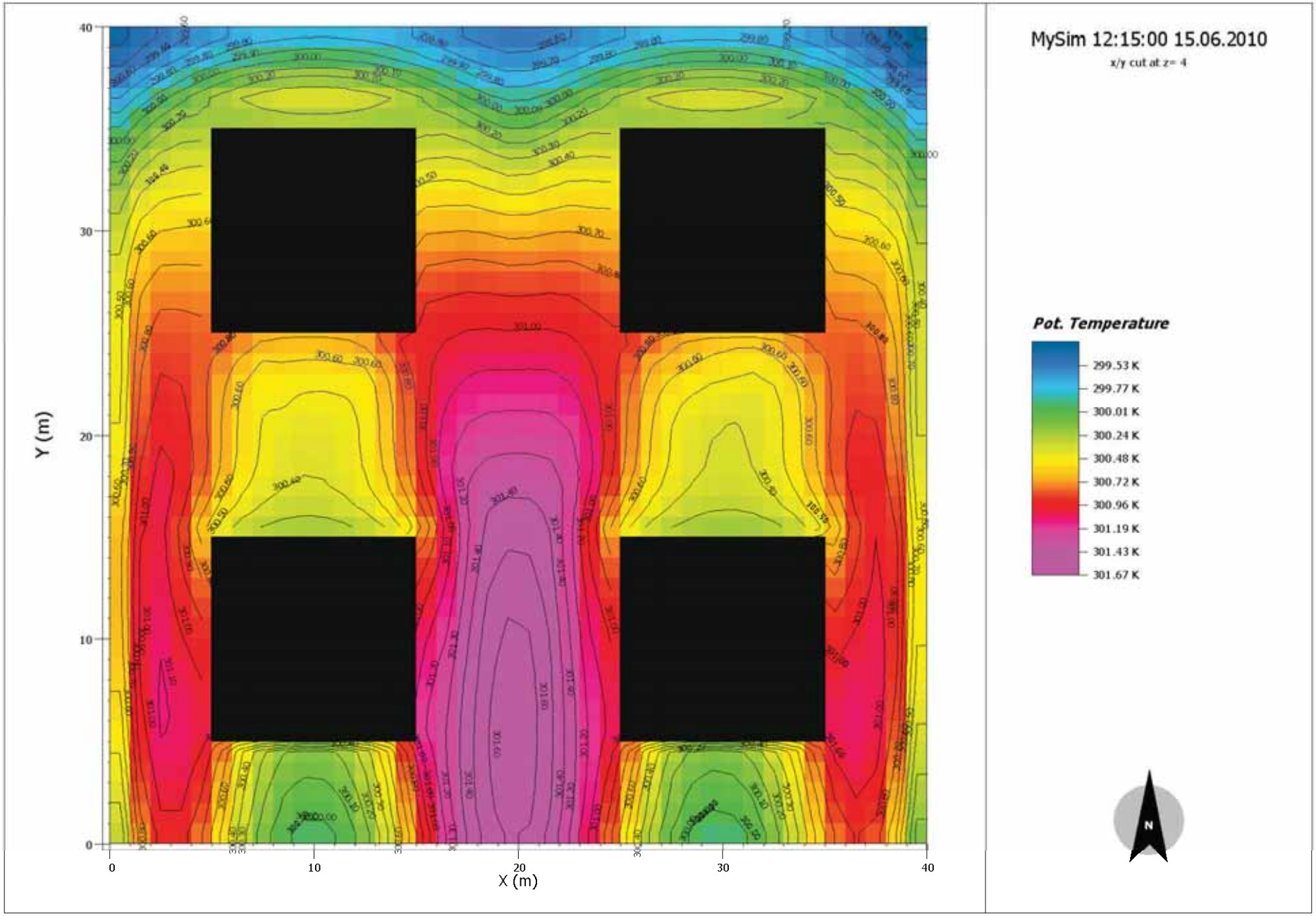

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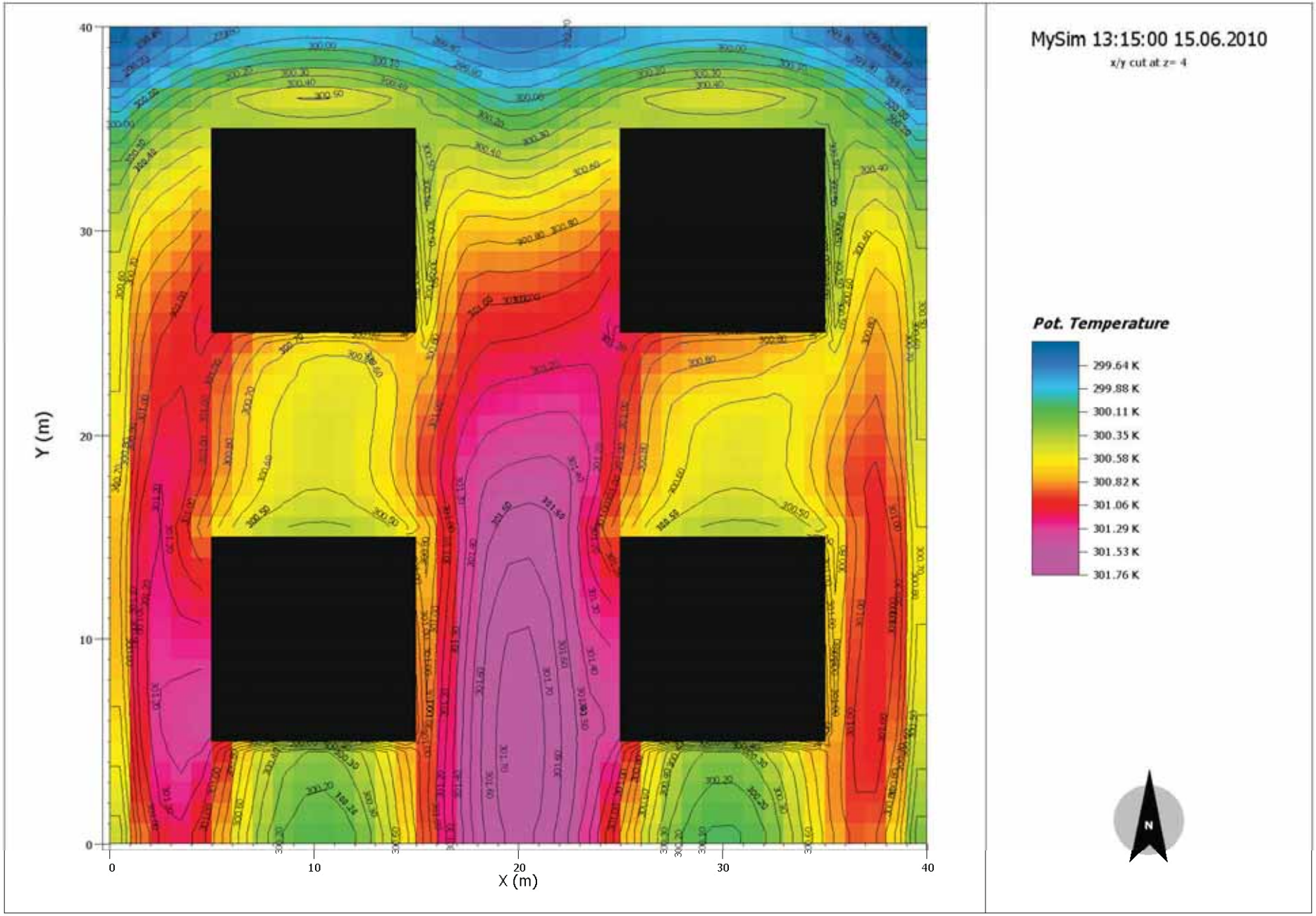

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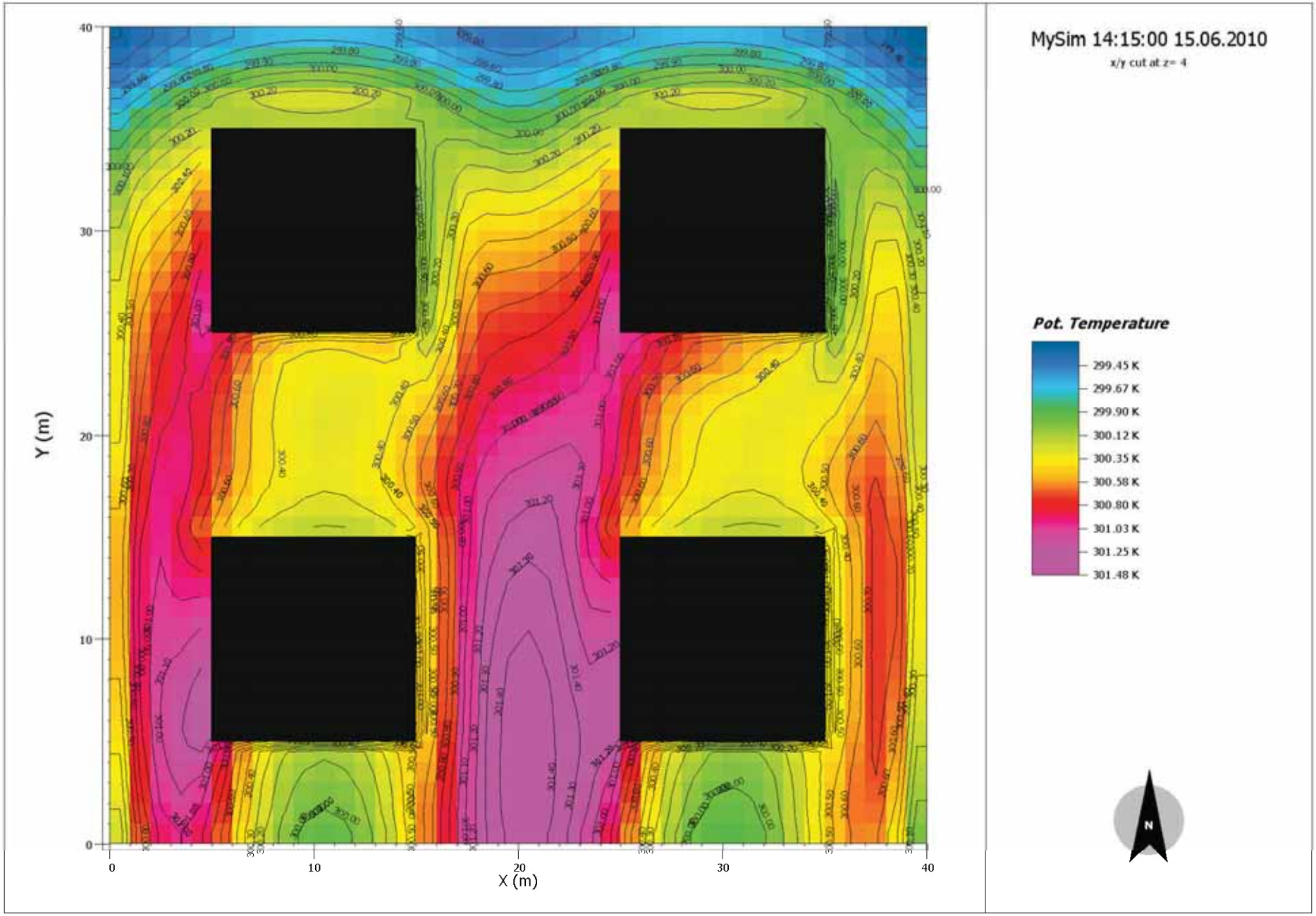

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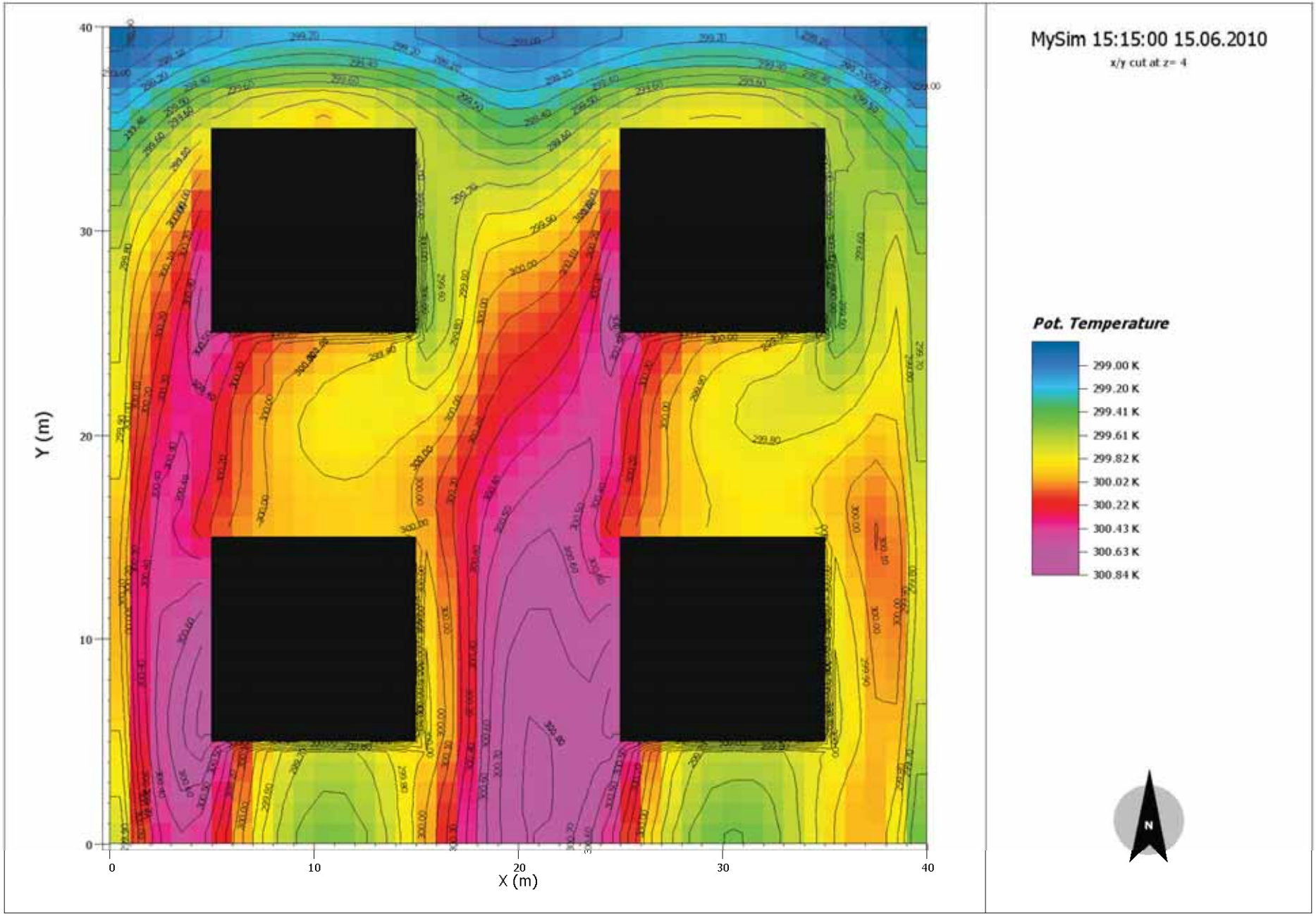

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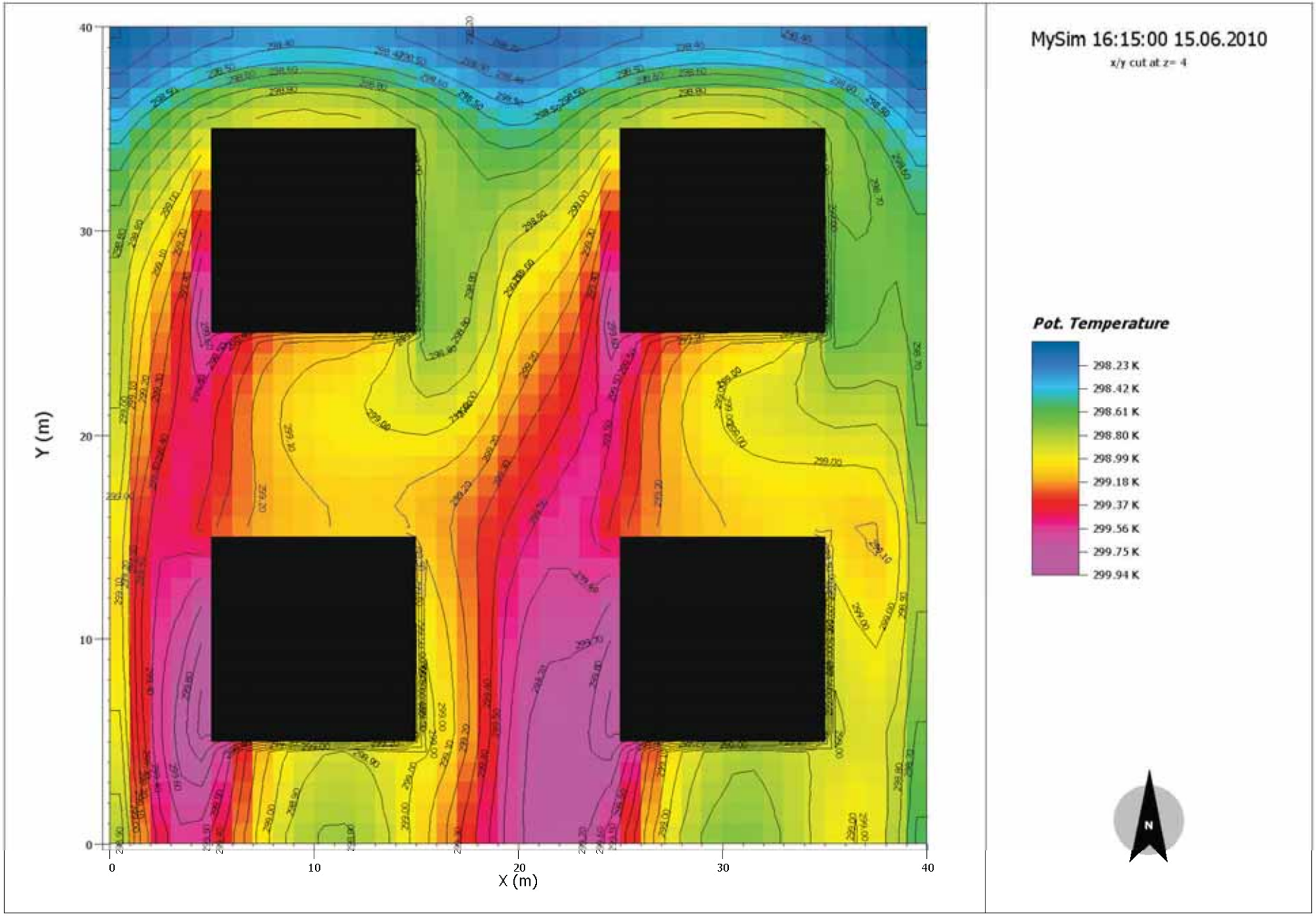

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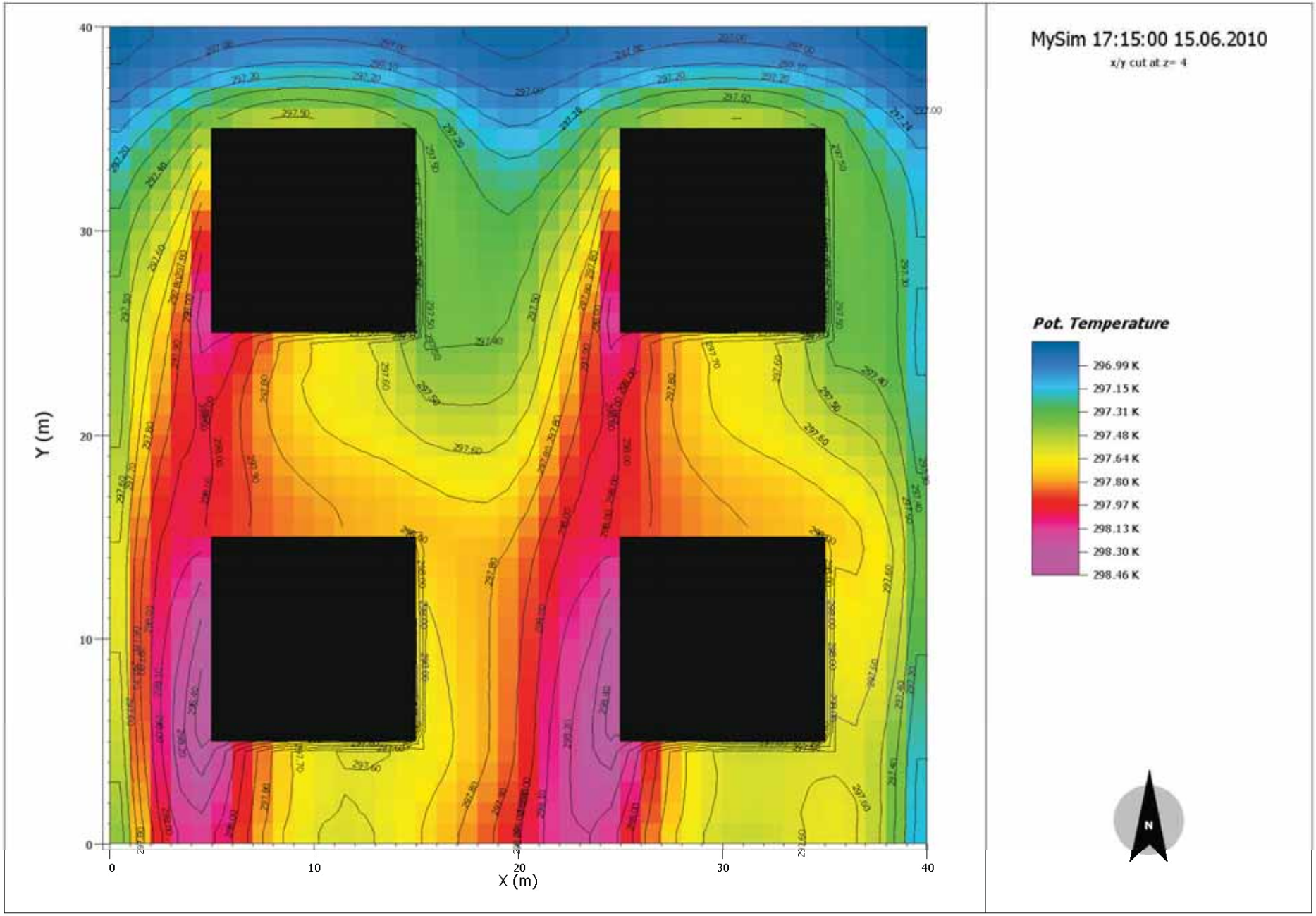

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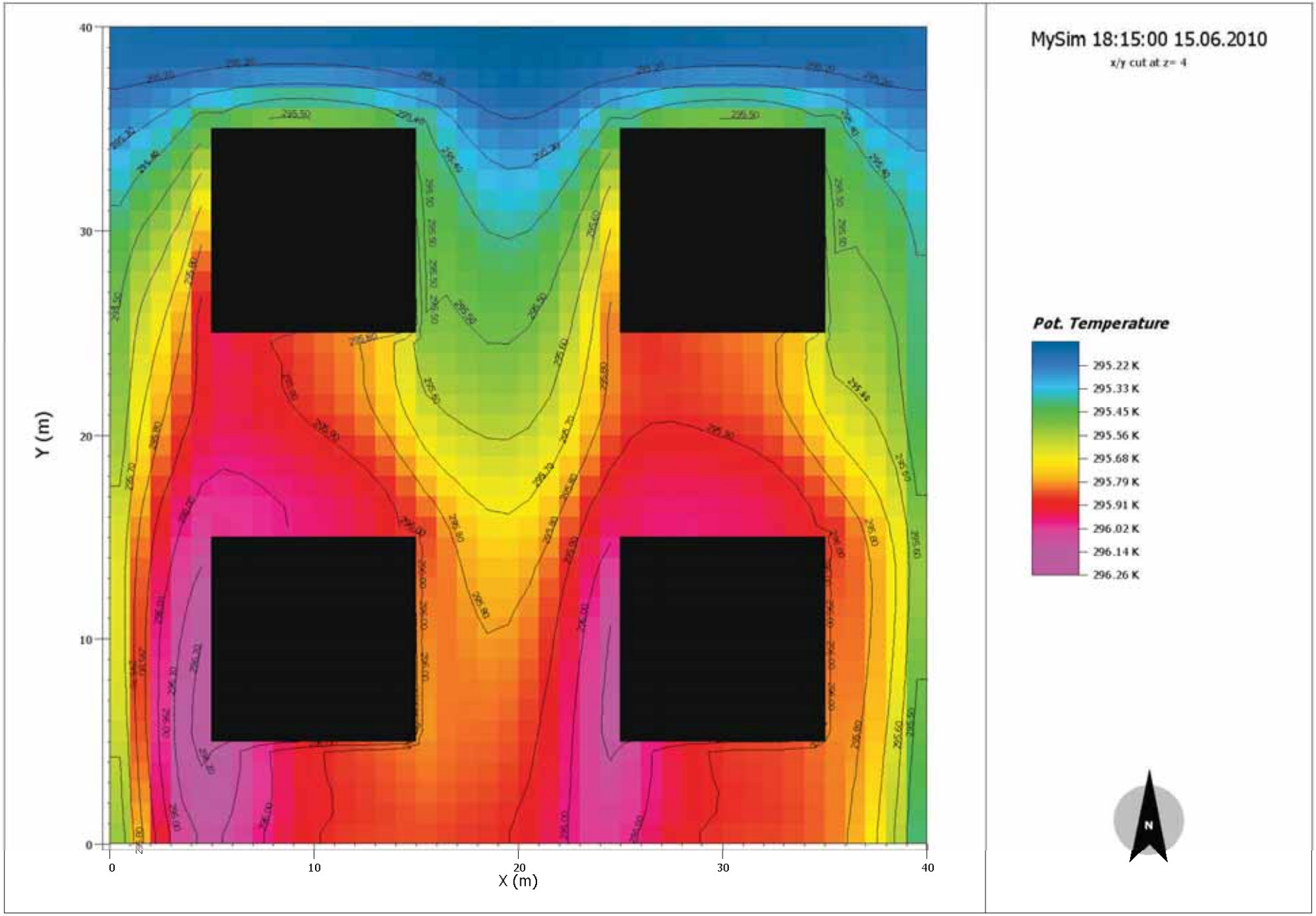

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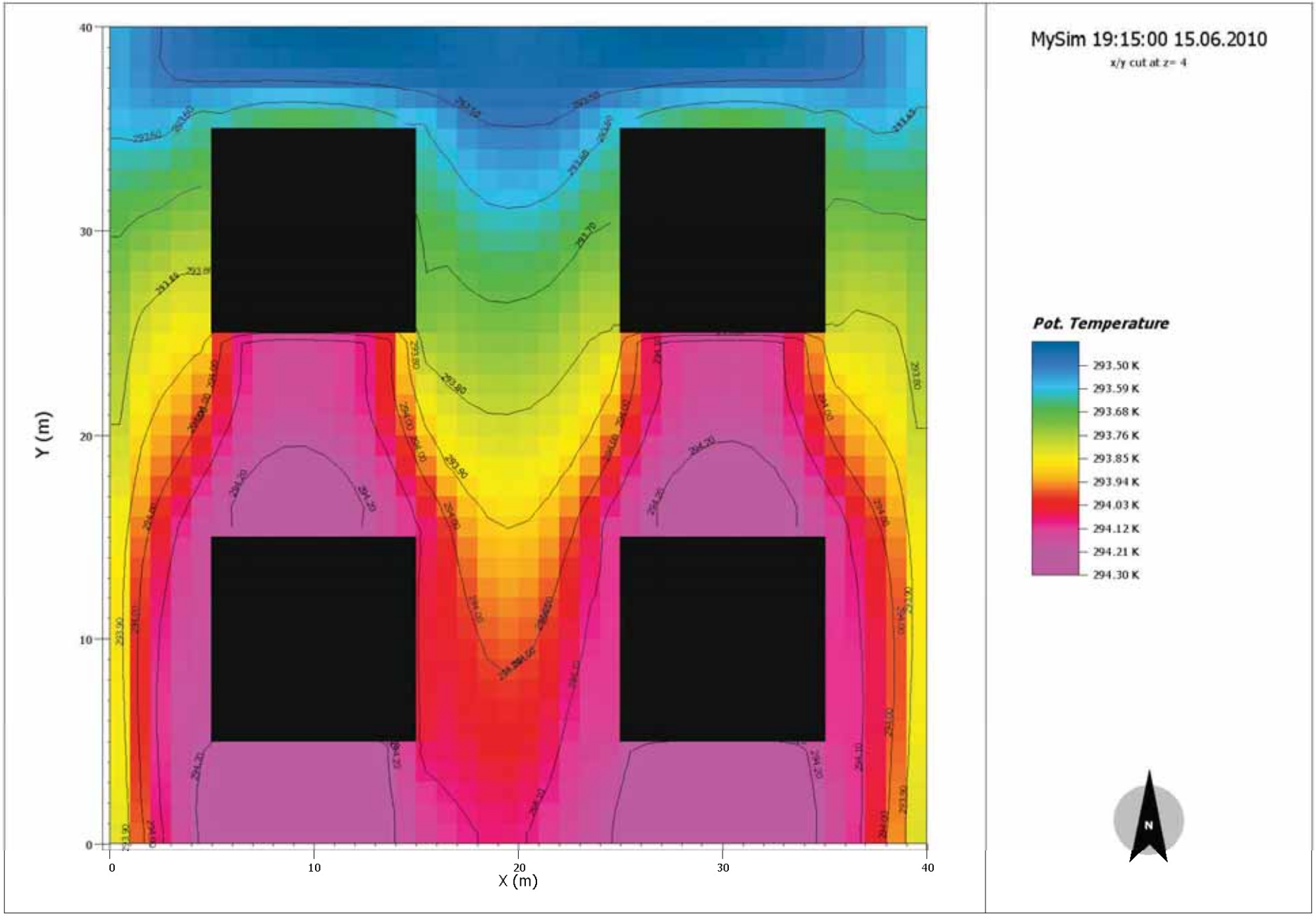

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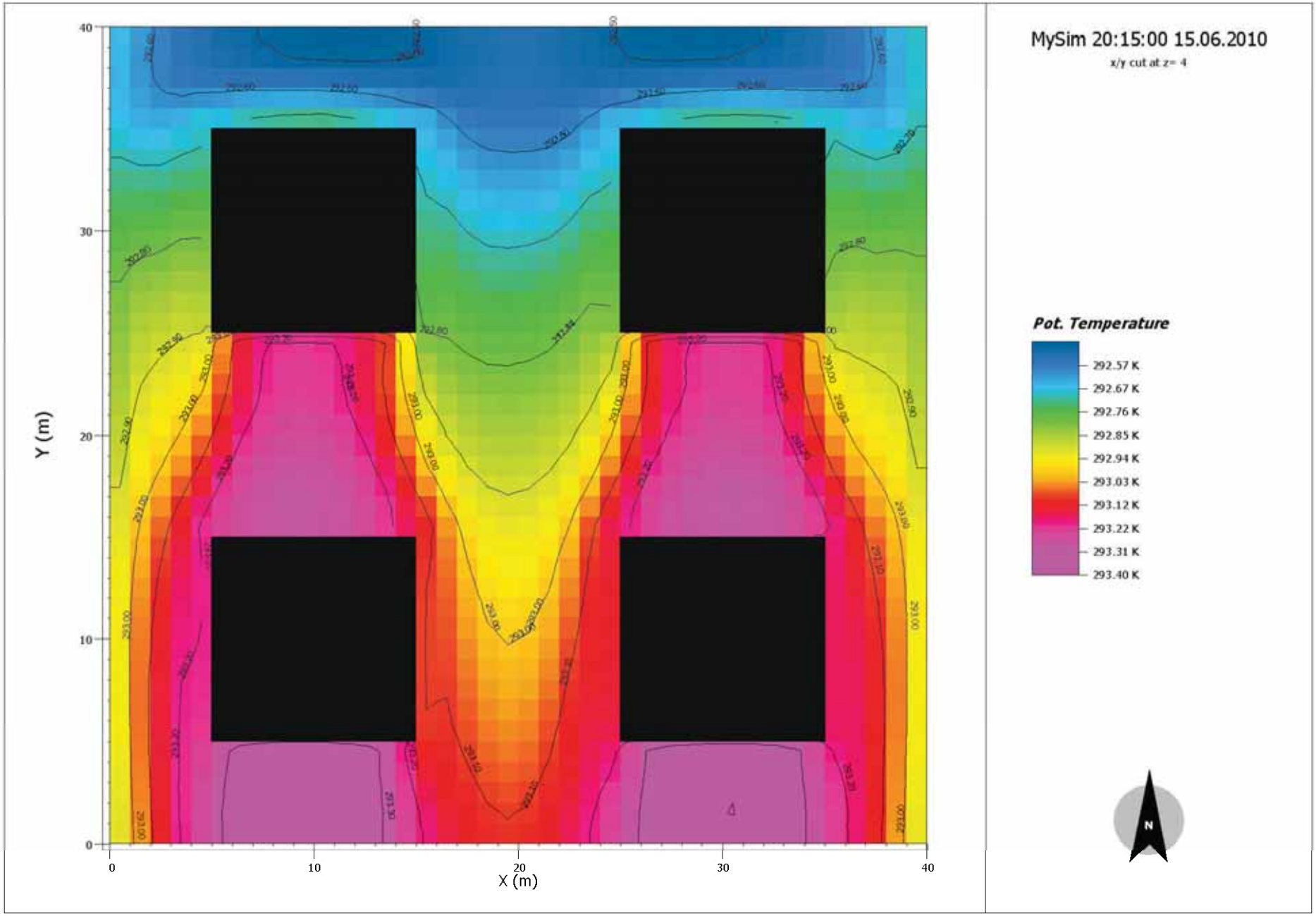

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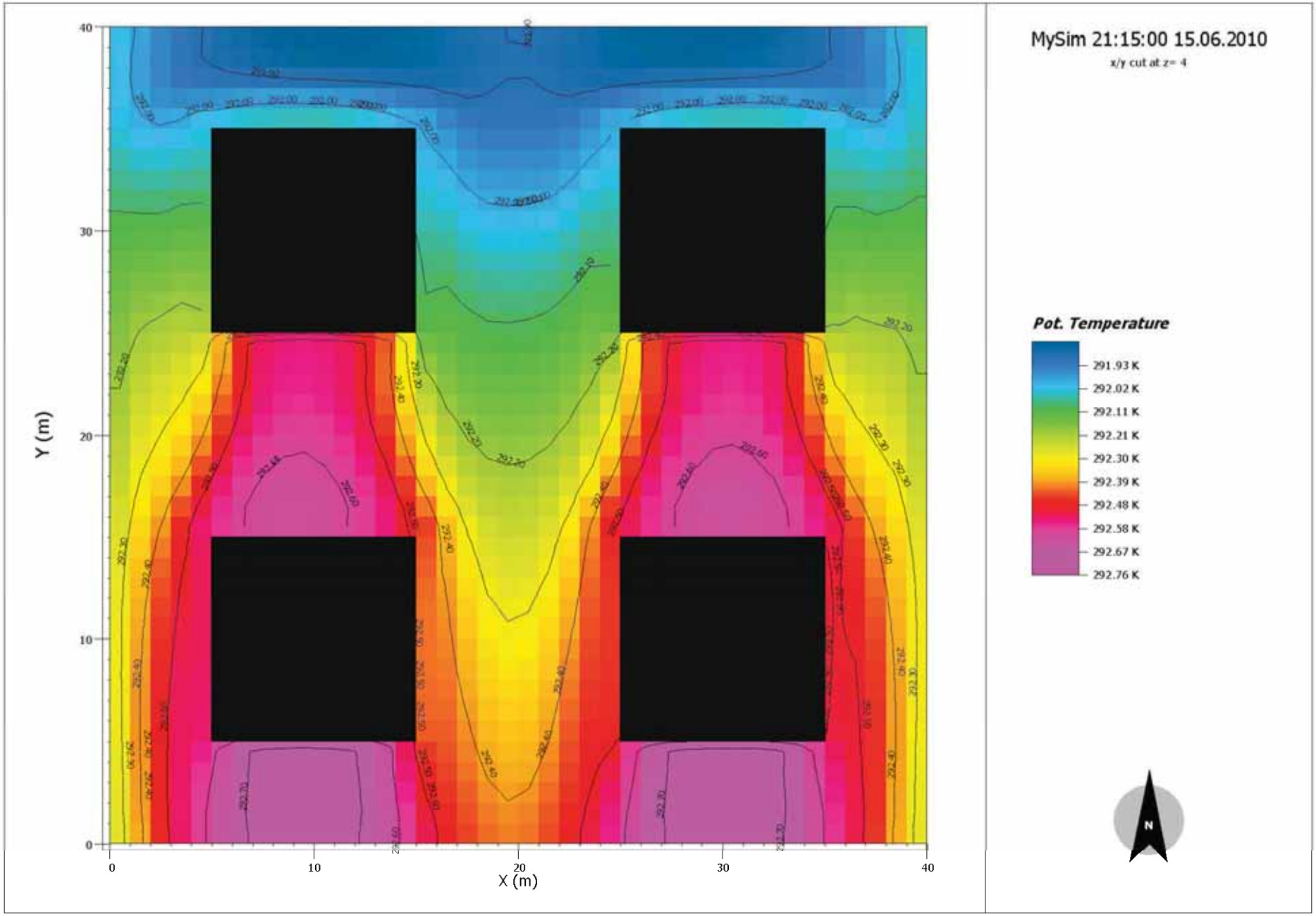

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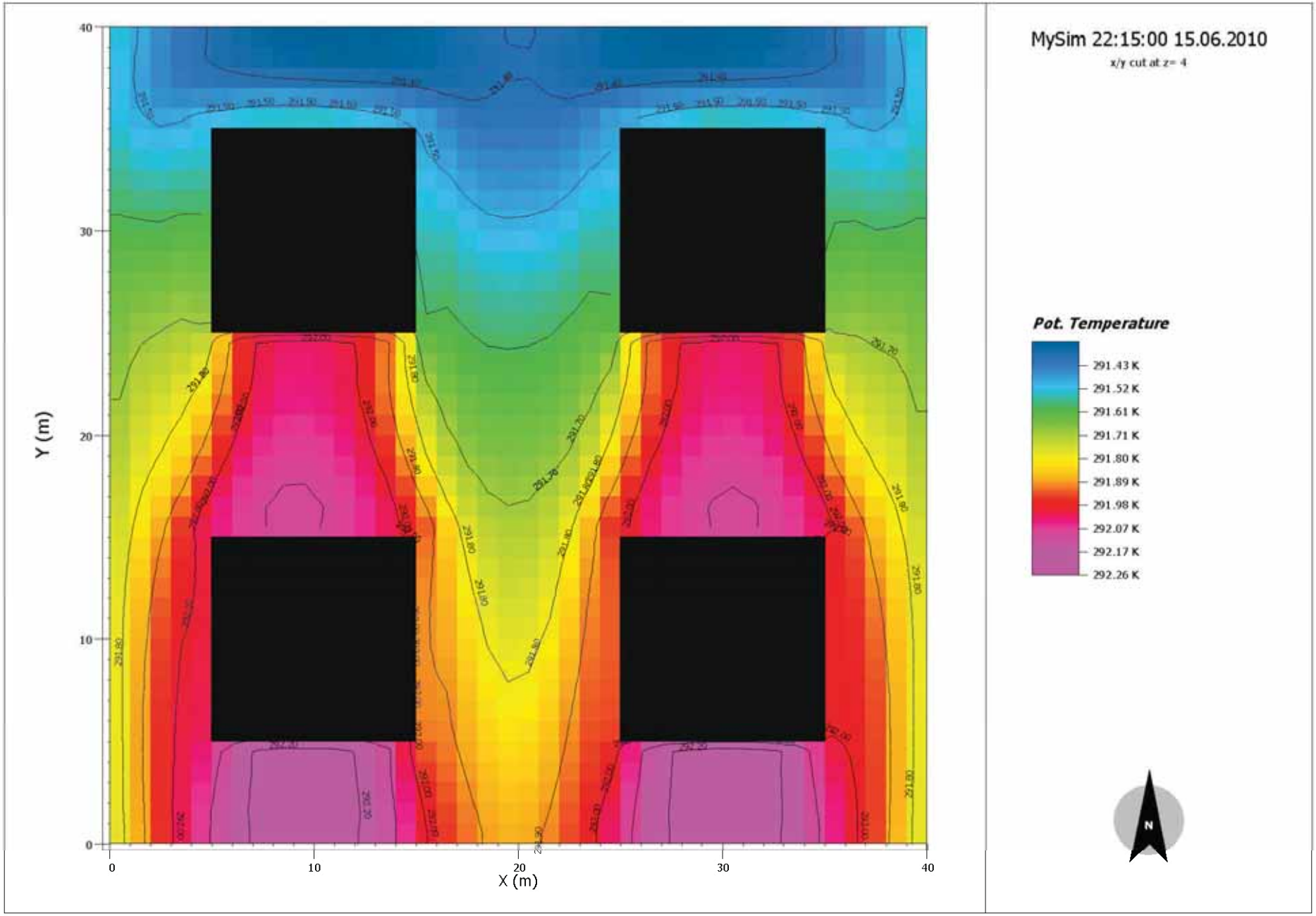

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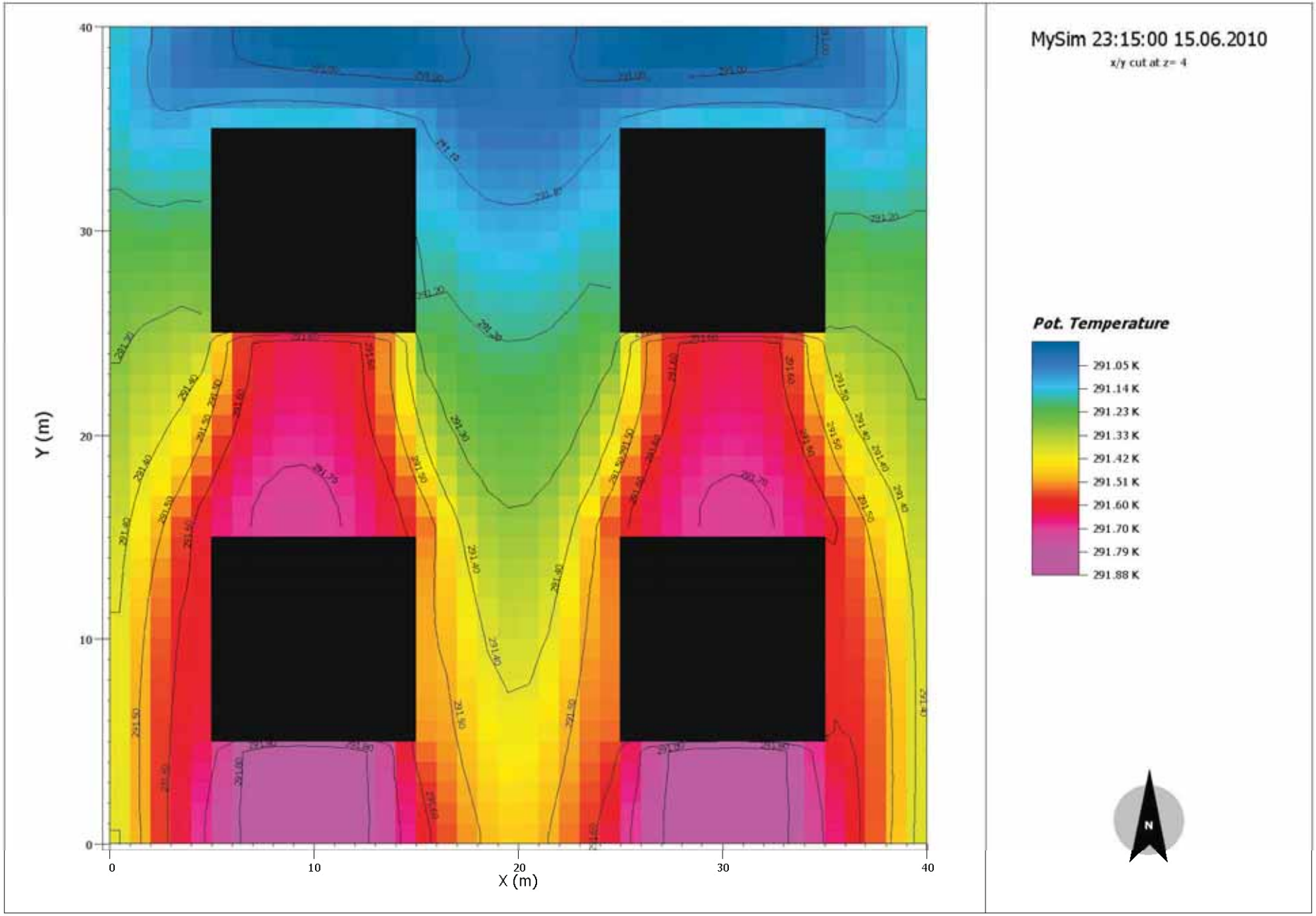

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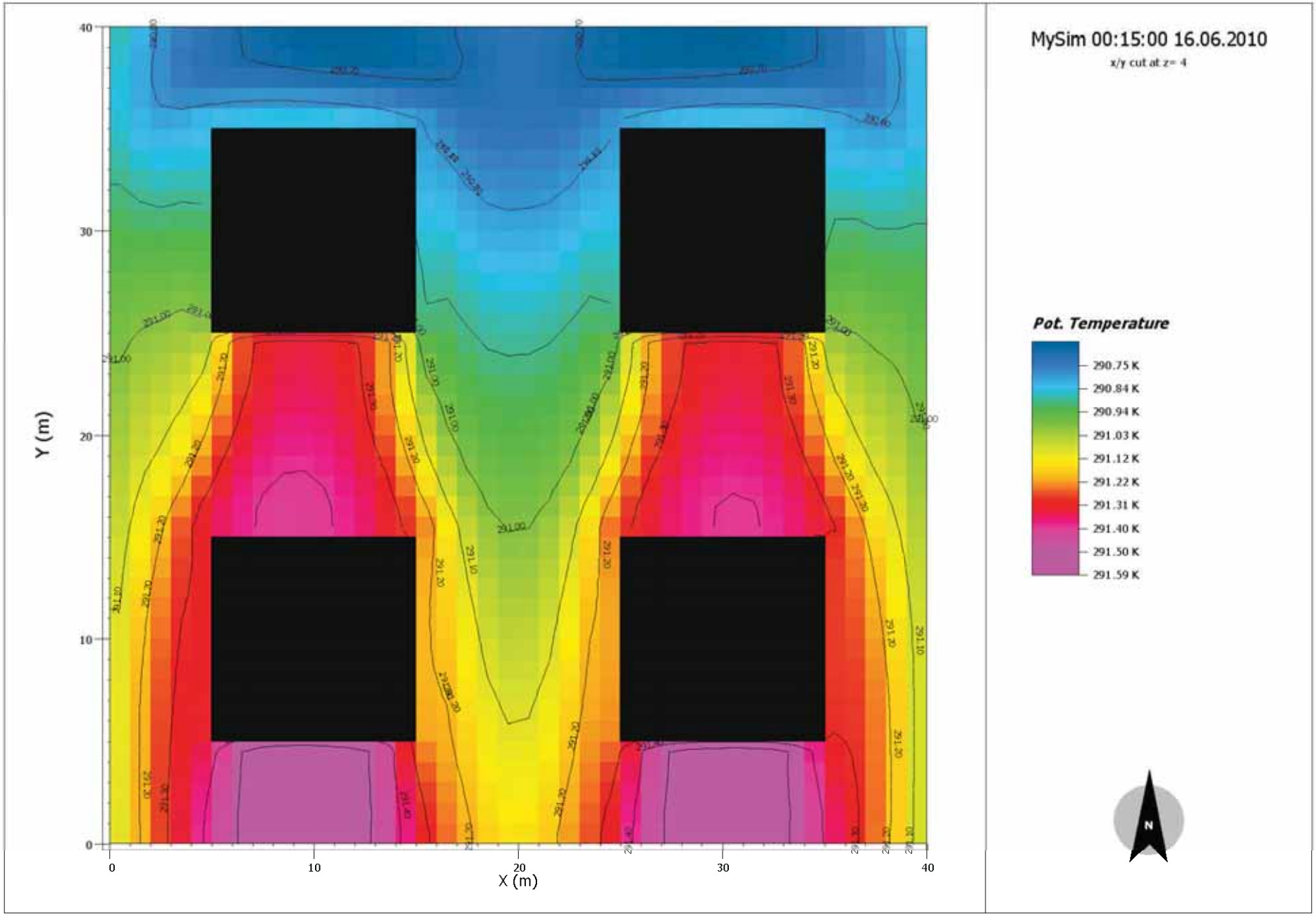

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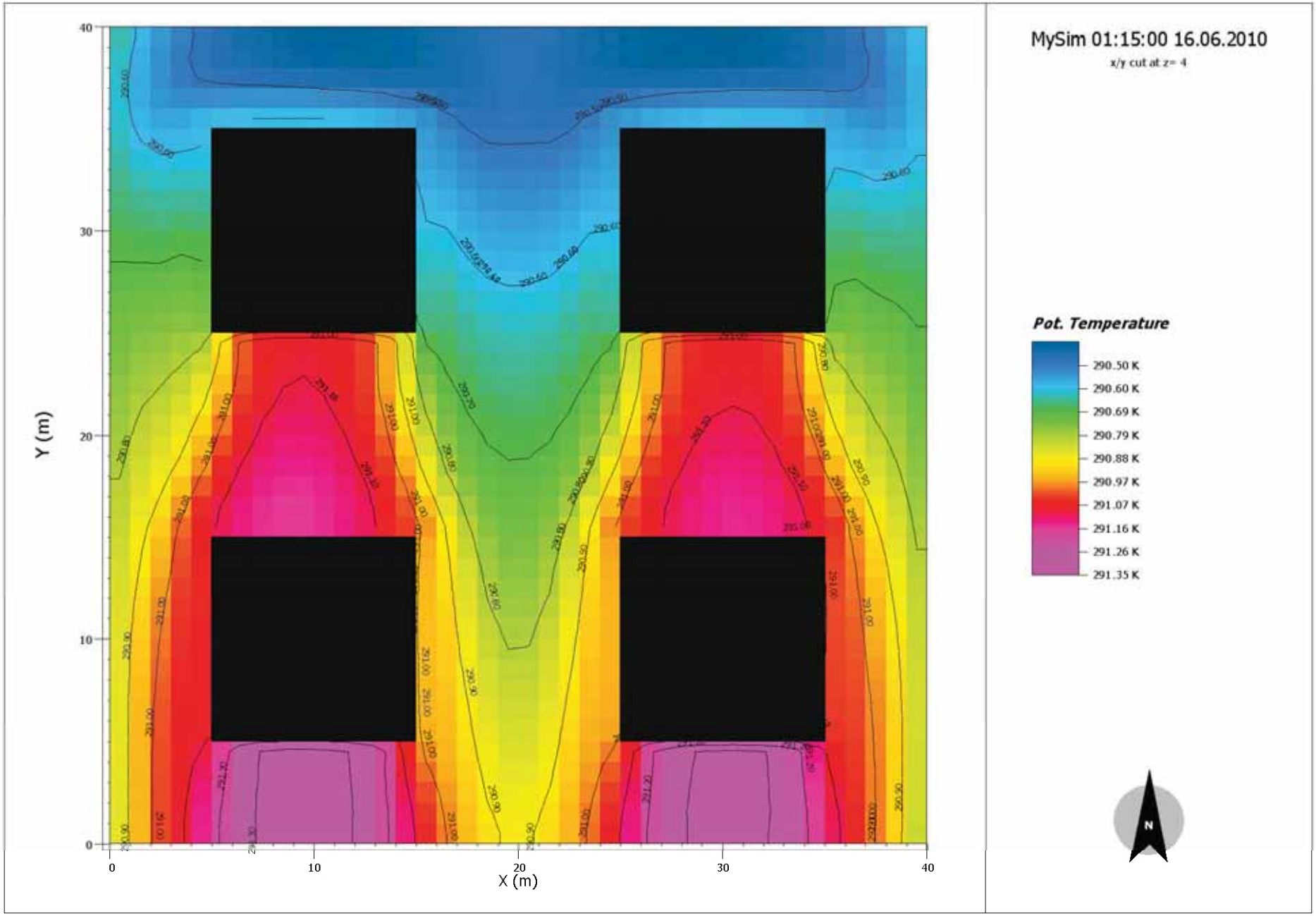

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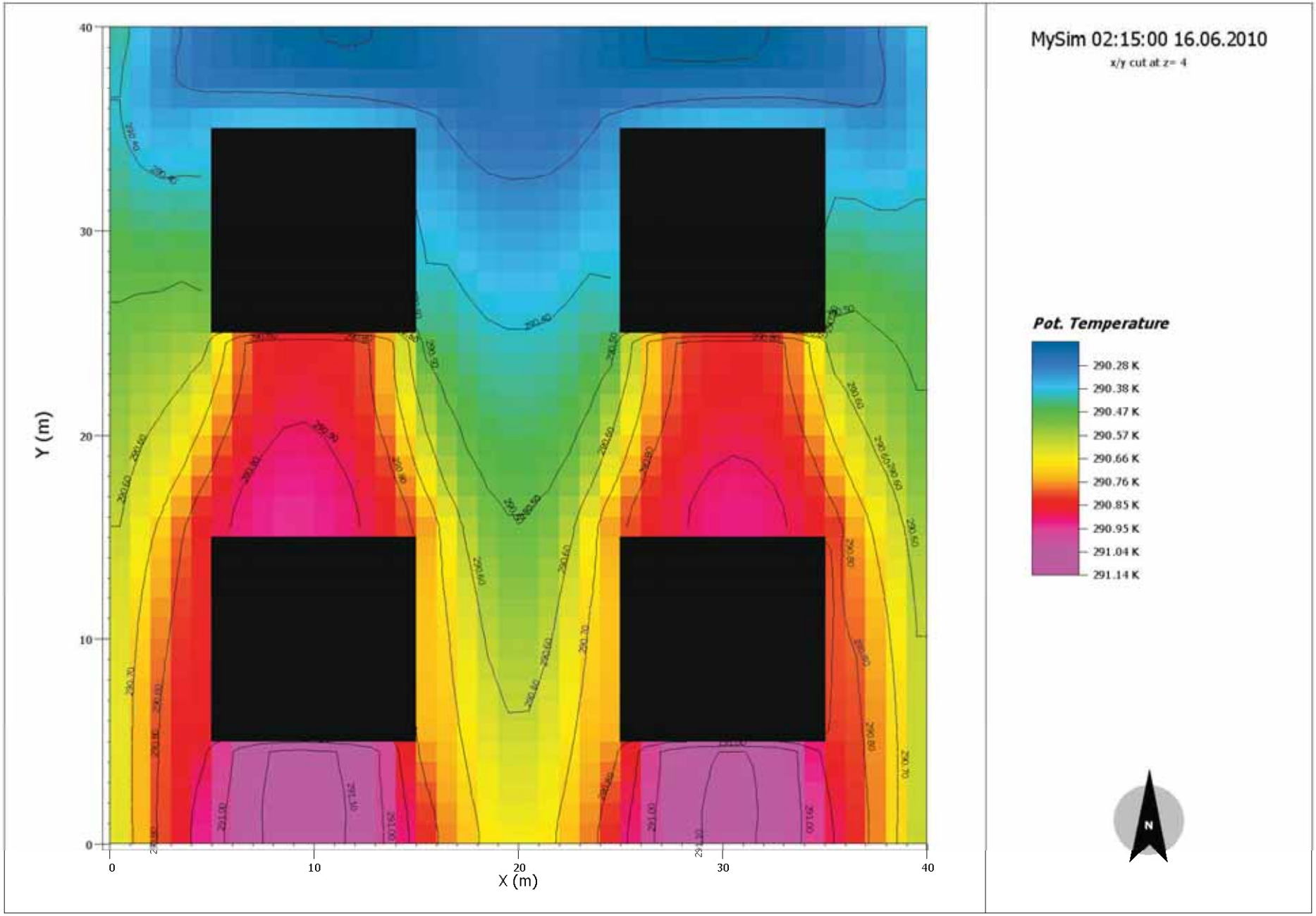

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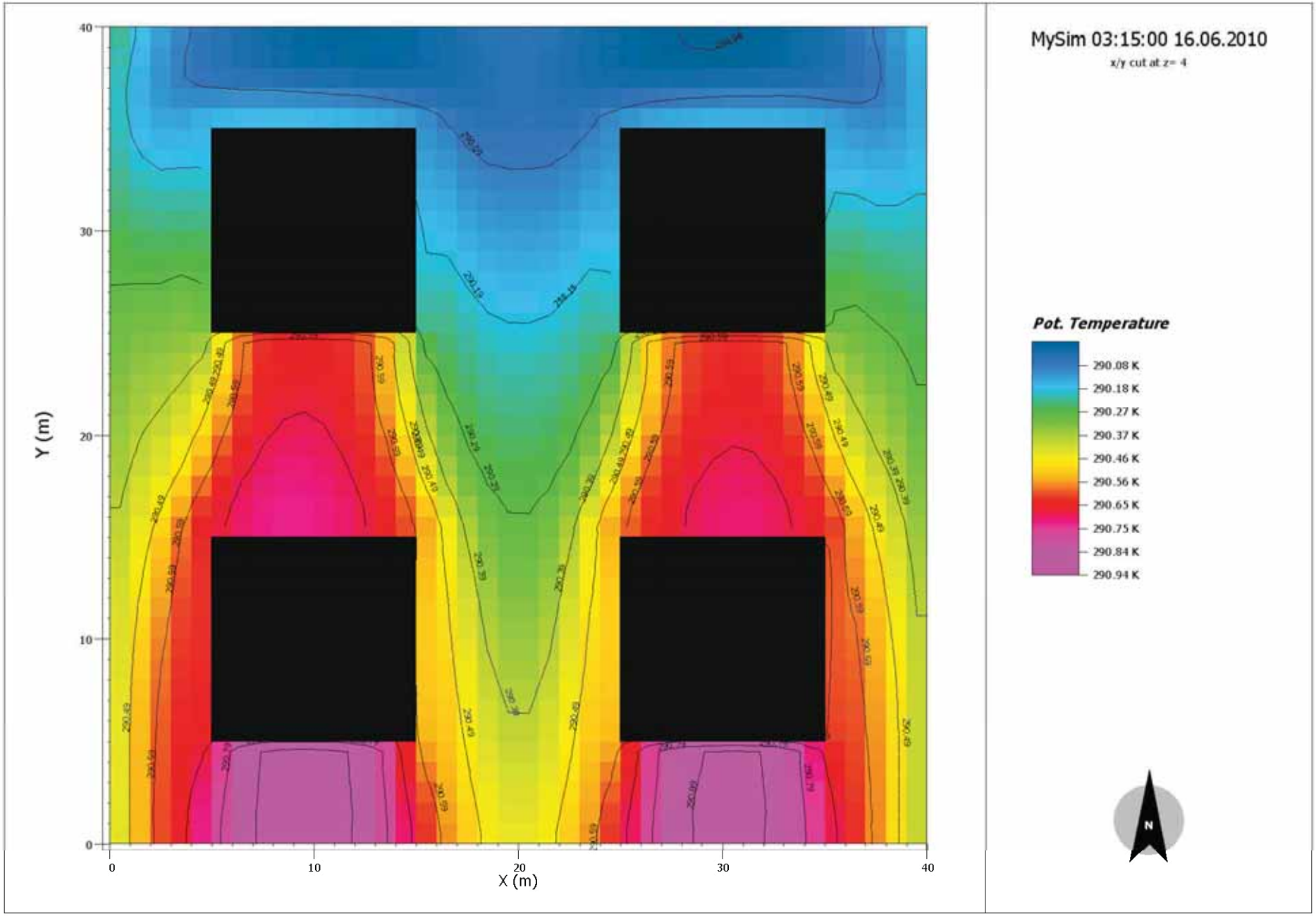

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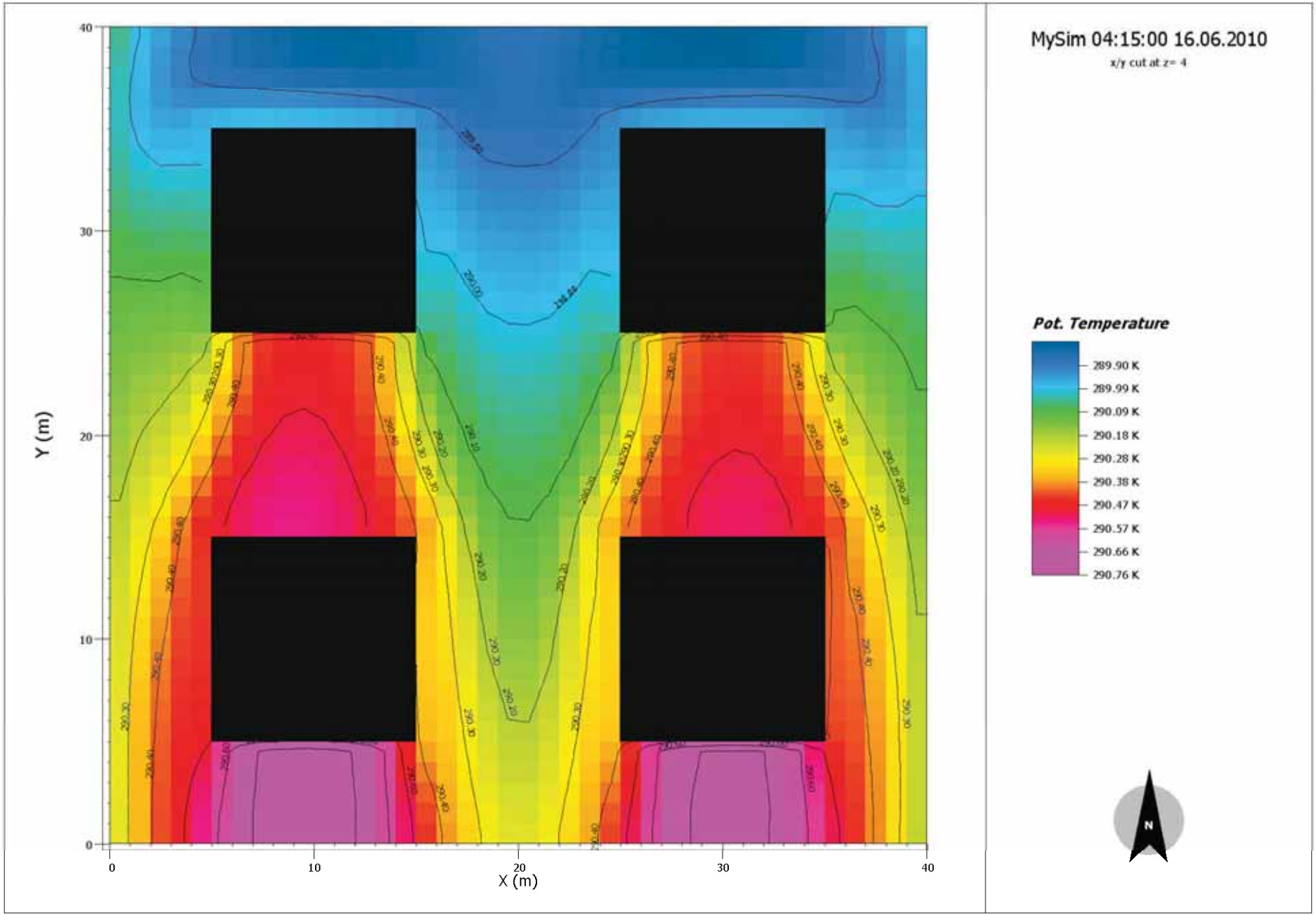

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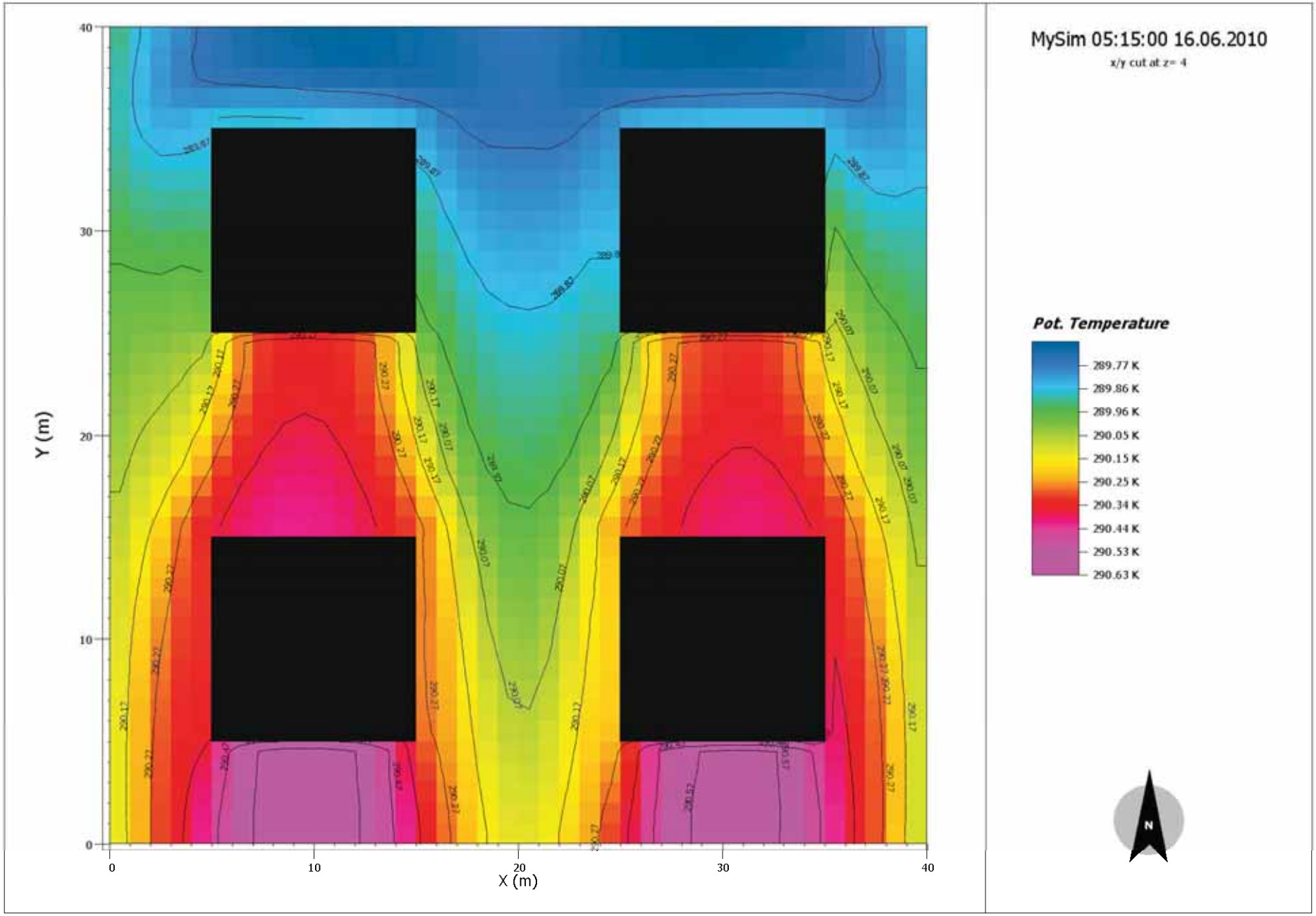

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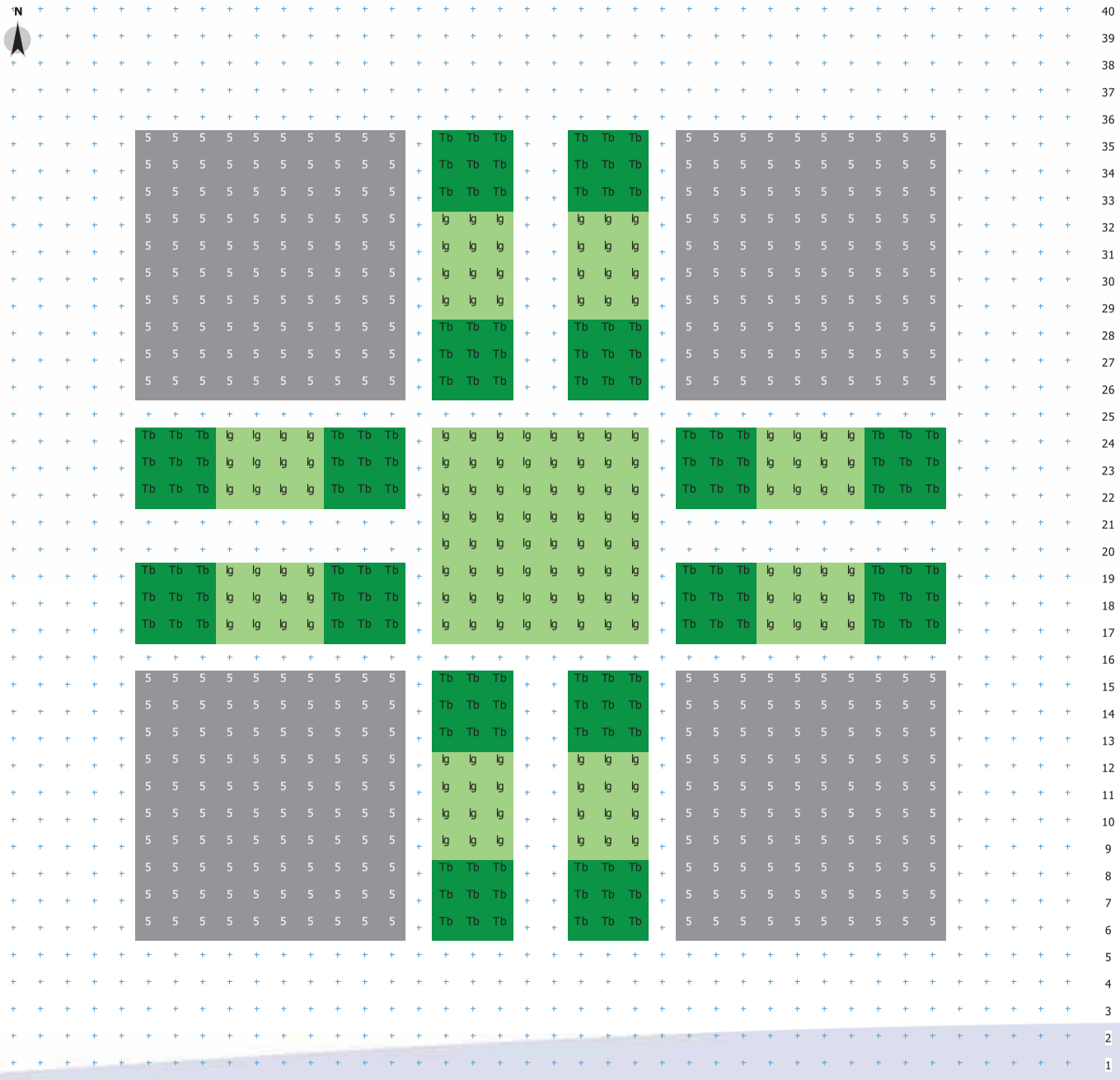
AN URBACT II PROJECT

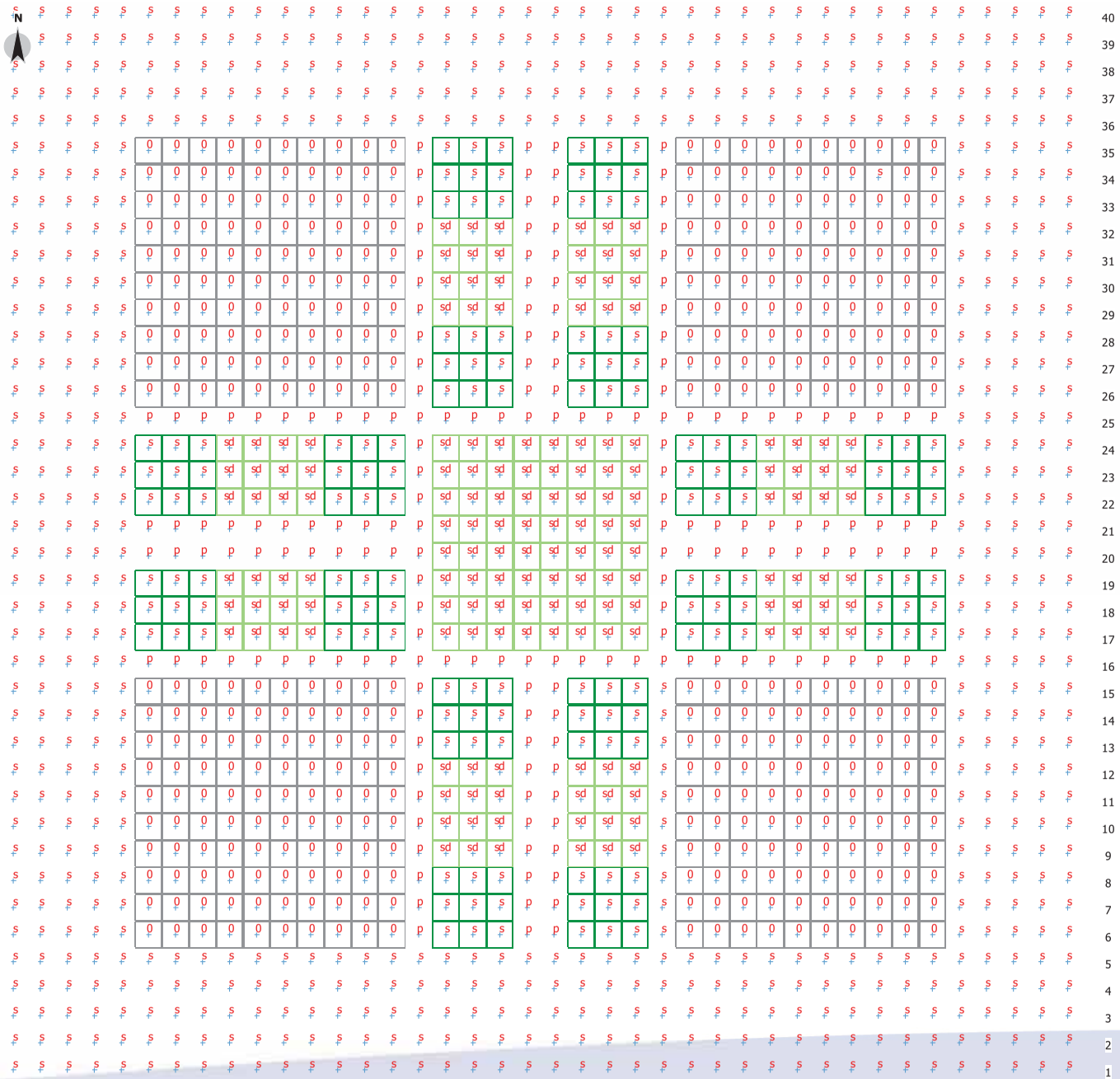


European Union

Connecting cities
Building successes

URB ACT

AN URBACT II PROJECT



European Union

Connecting cities
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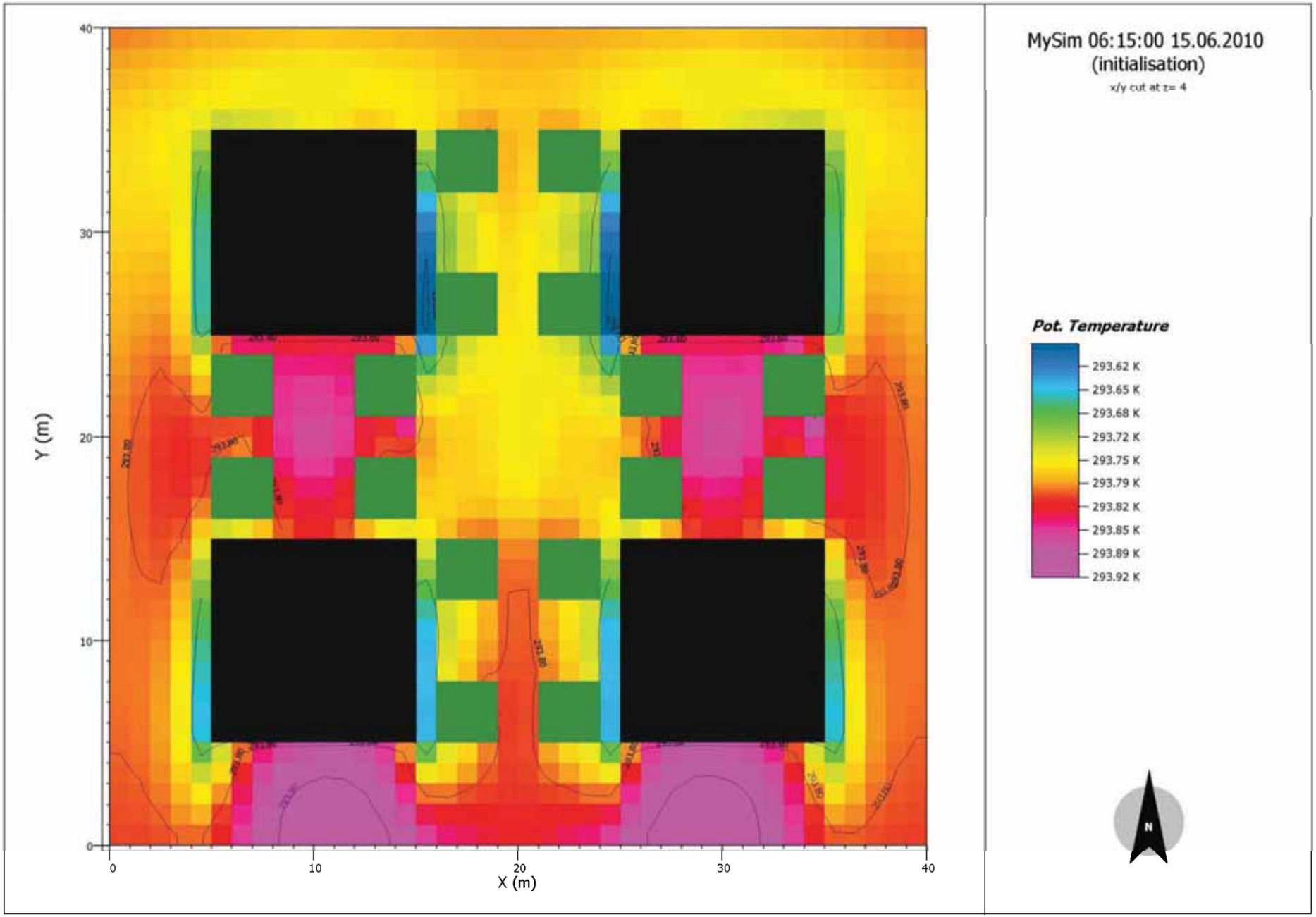
URB ACT


MySim 06:15:00 15.06.2010
(initialisation)
x/y cut at z= 4
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293.65 K
293.68 K
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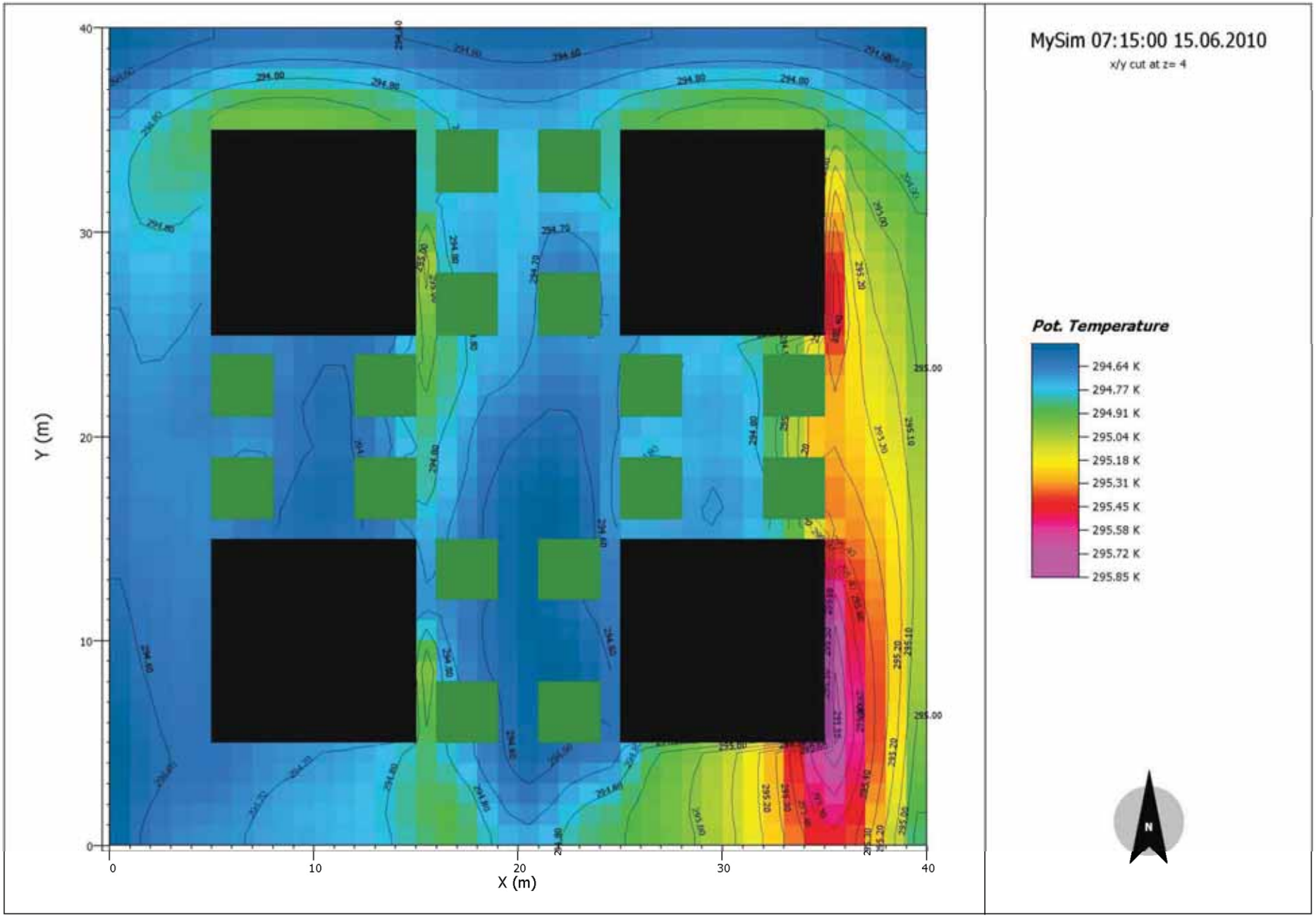
293.92 K
Y (m)
X (m)
0
10
20
30
40
N



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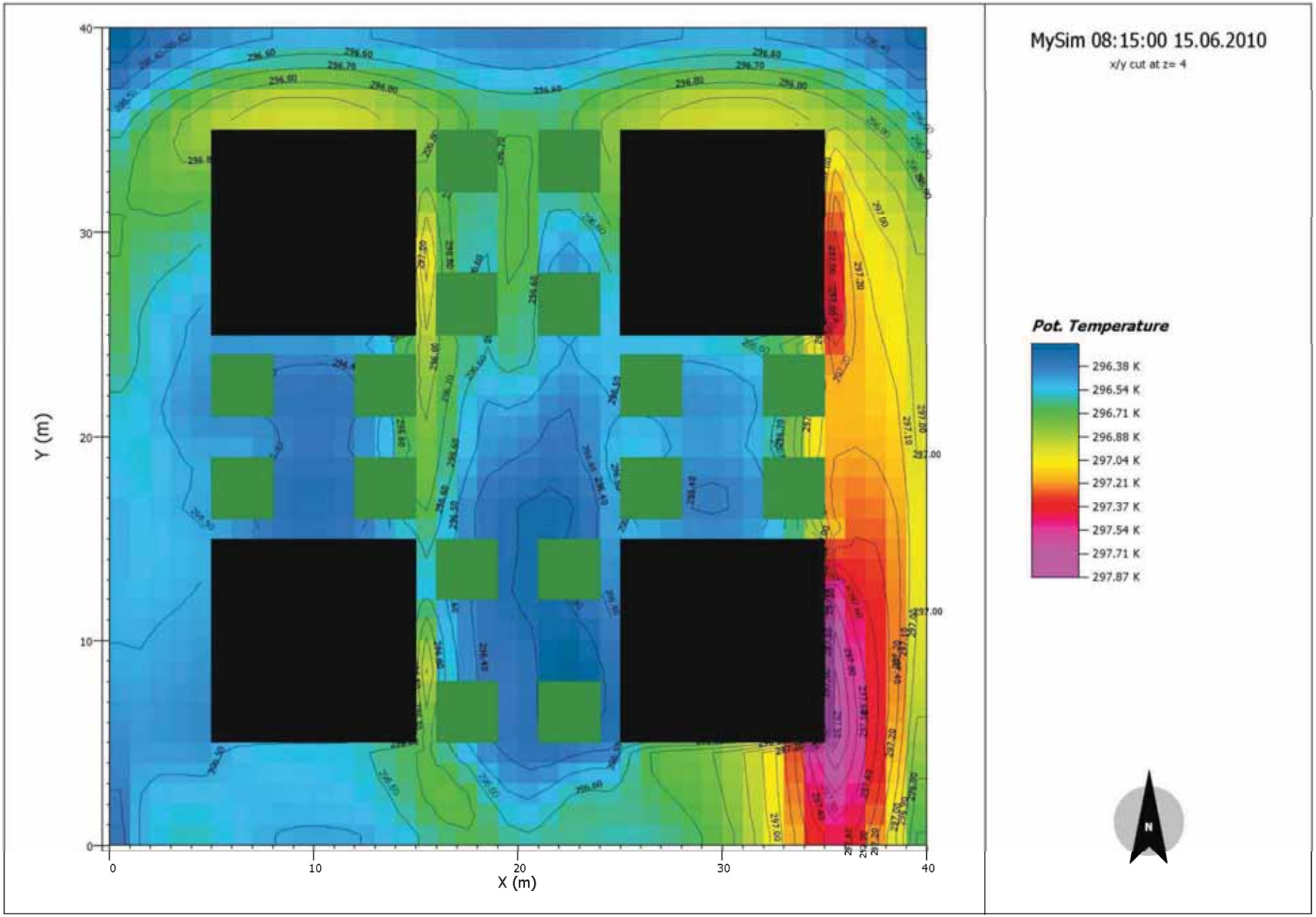

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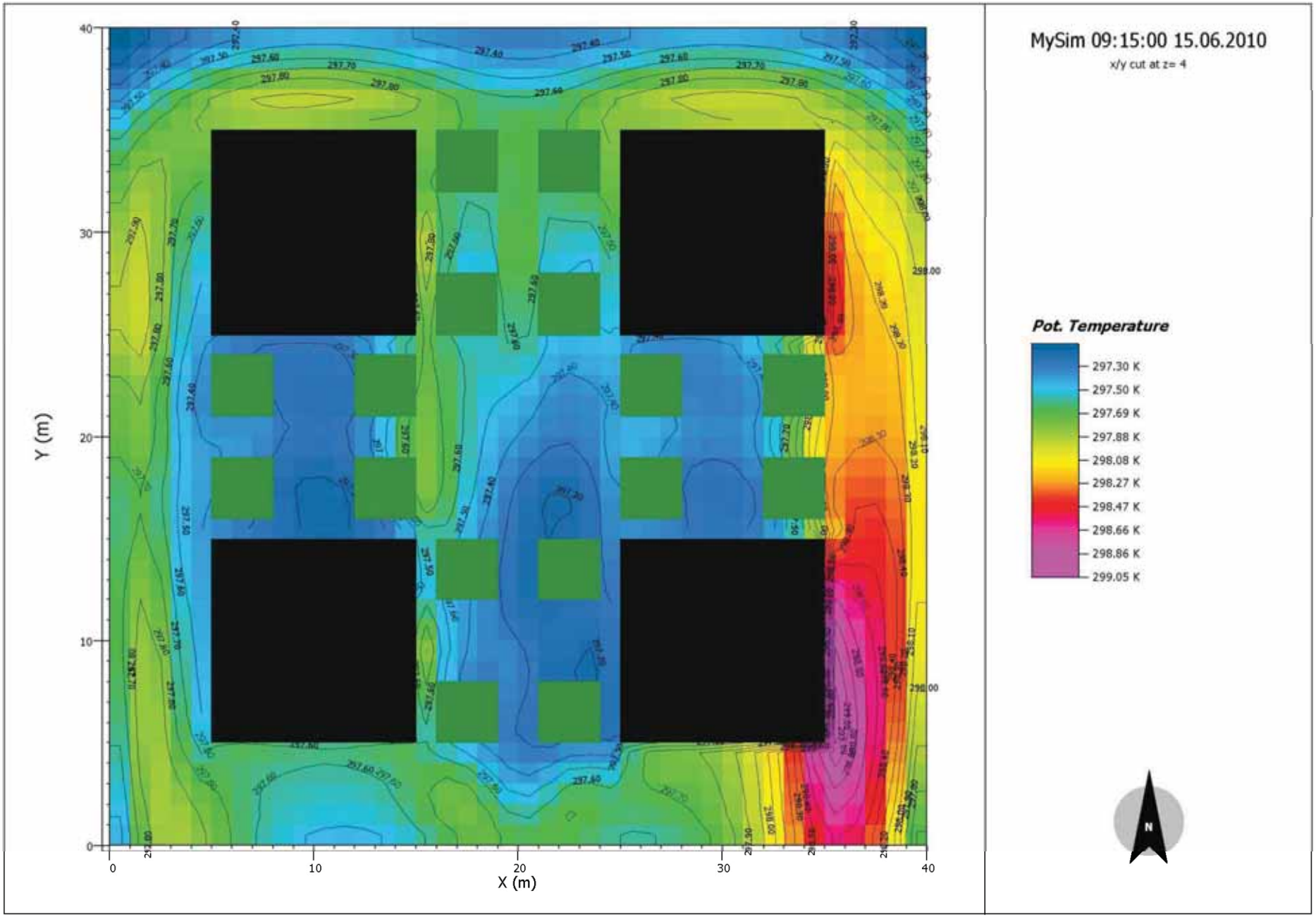

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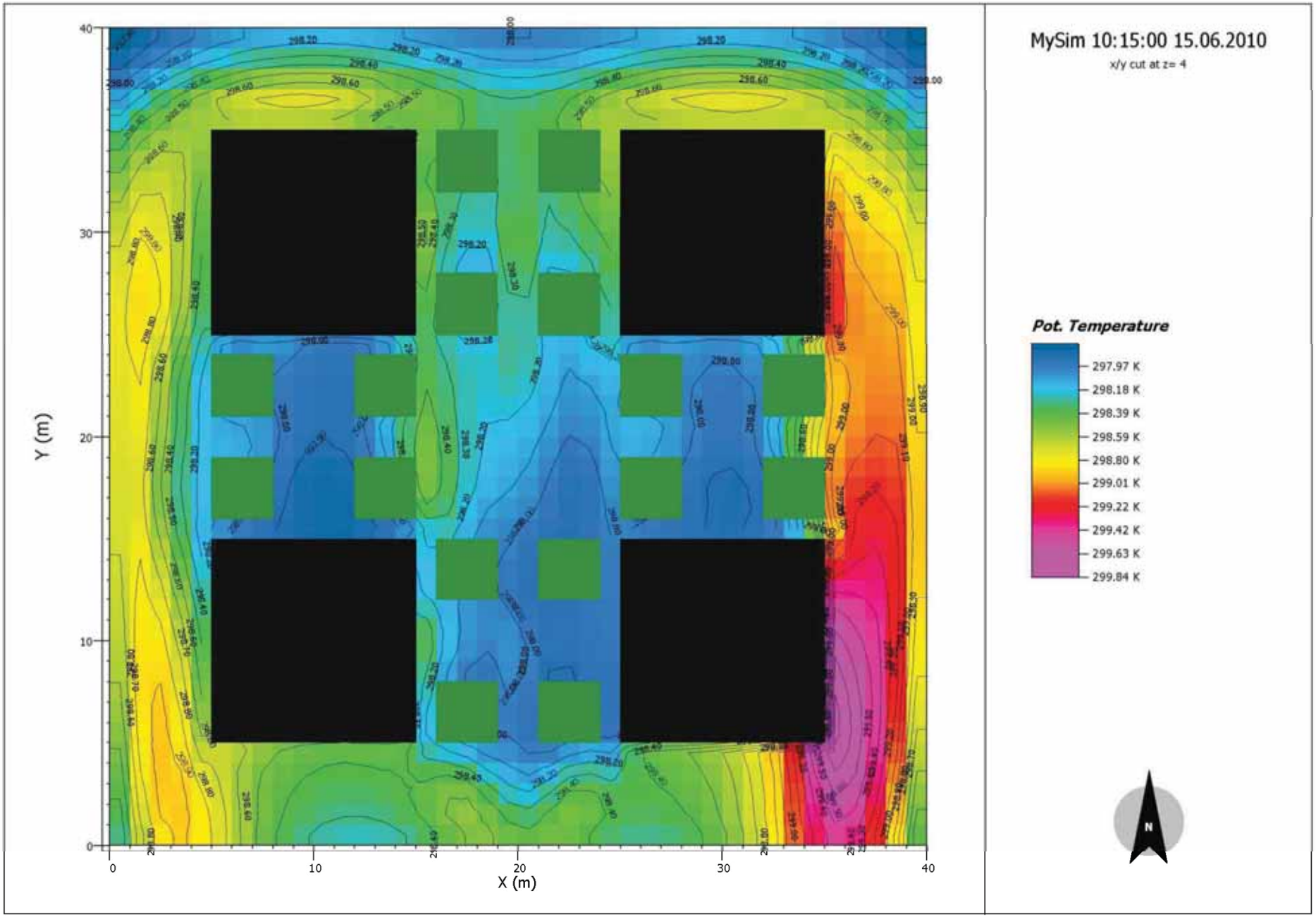

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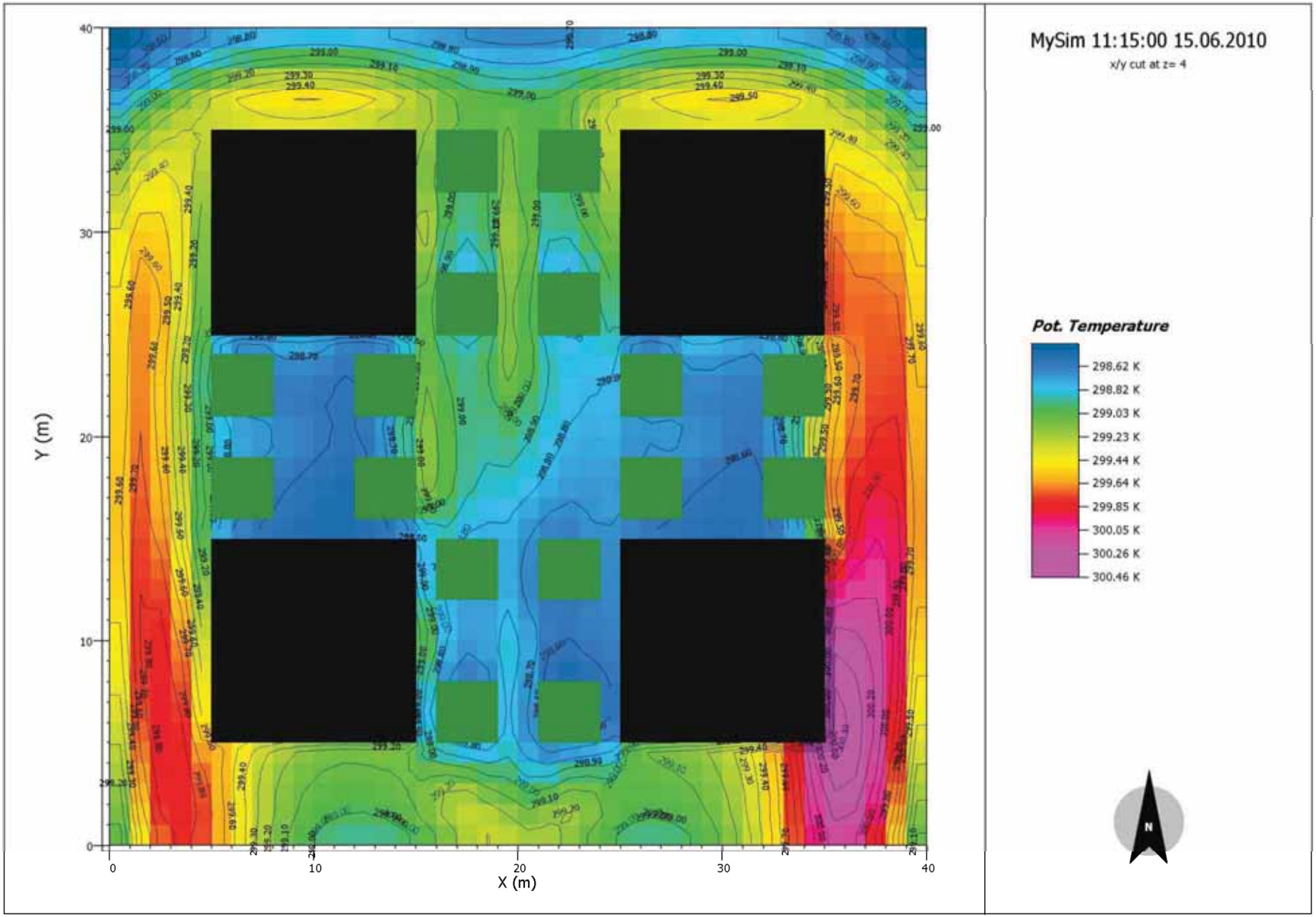

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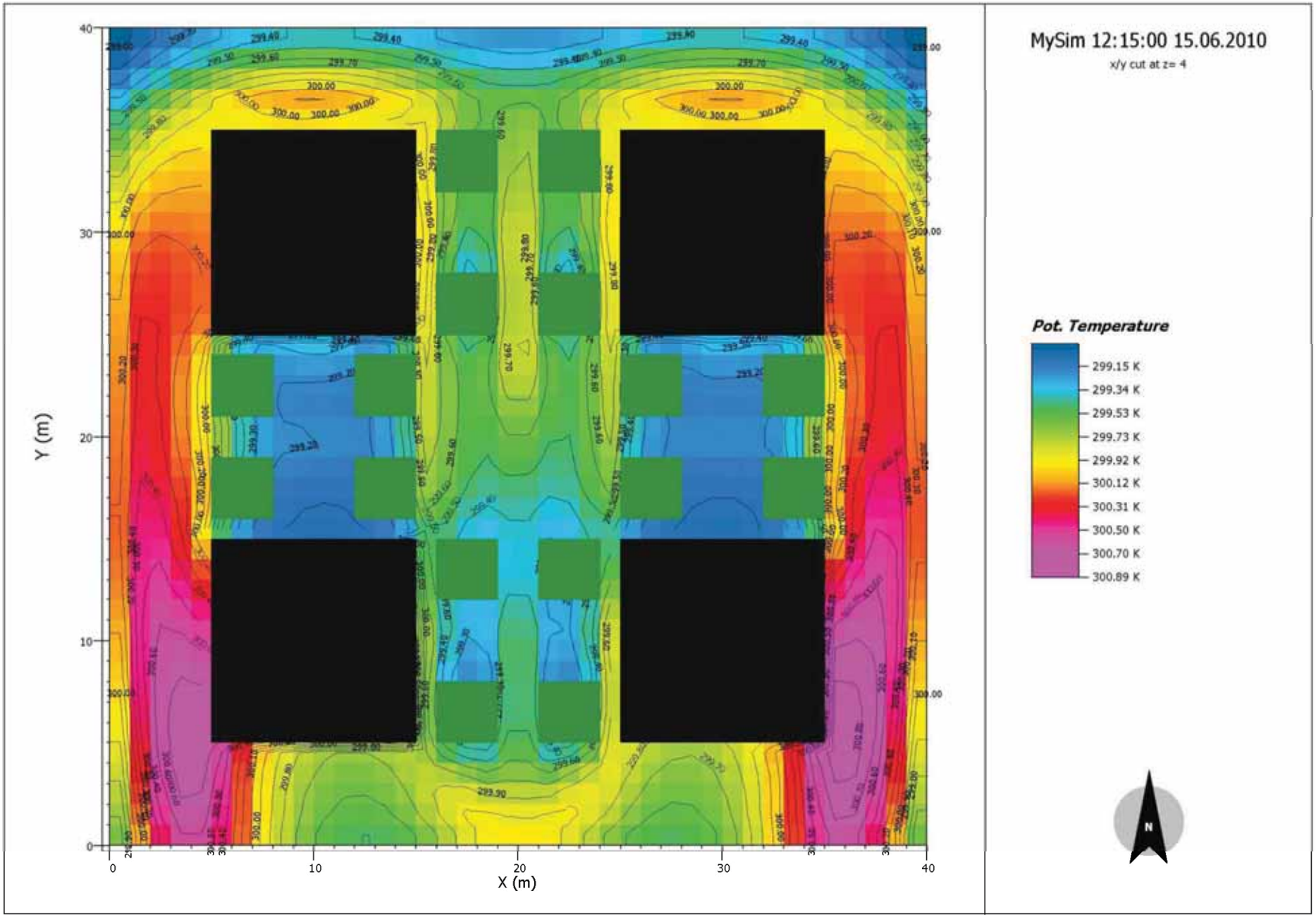

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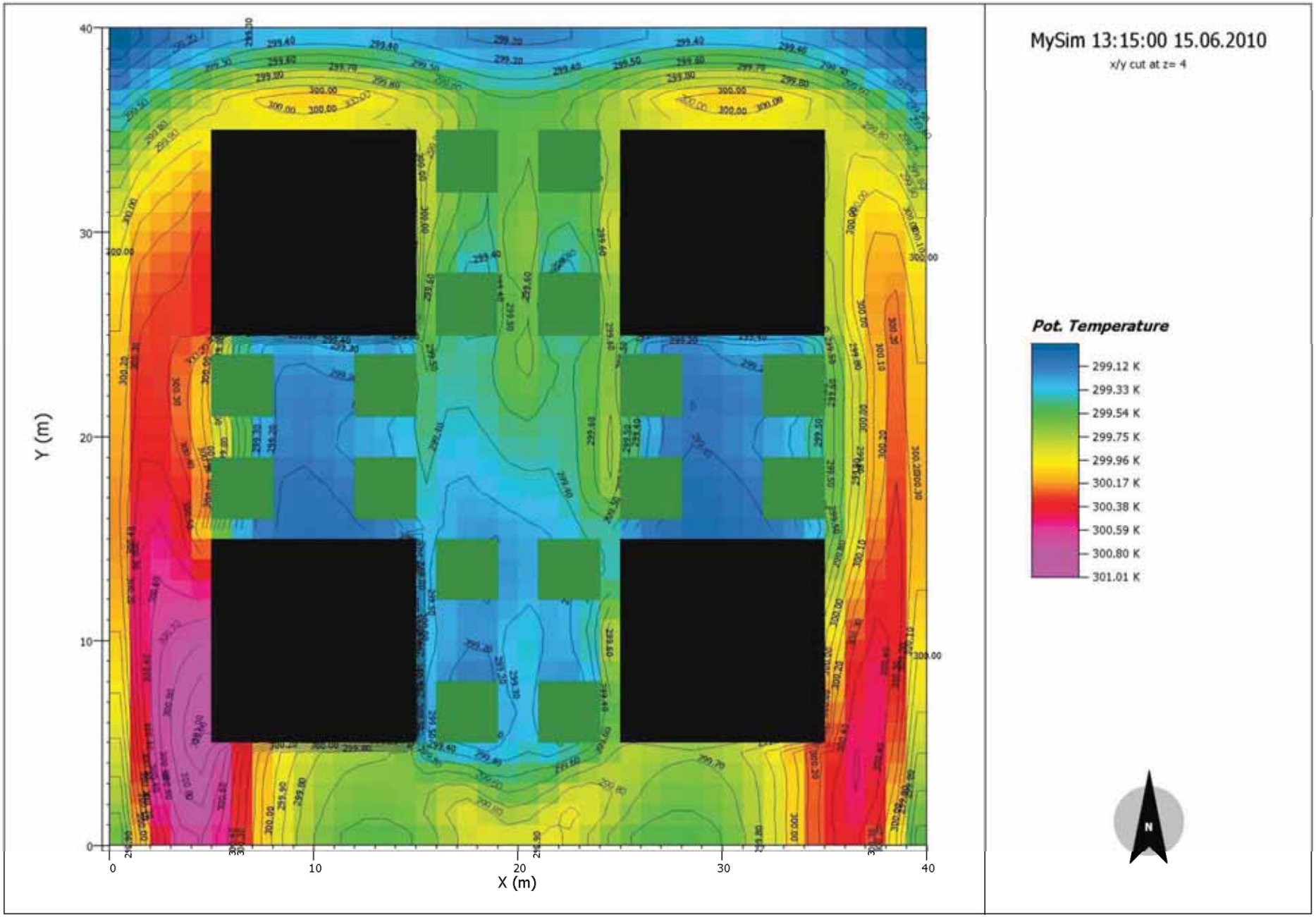

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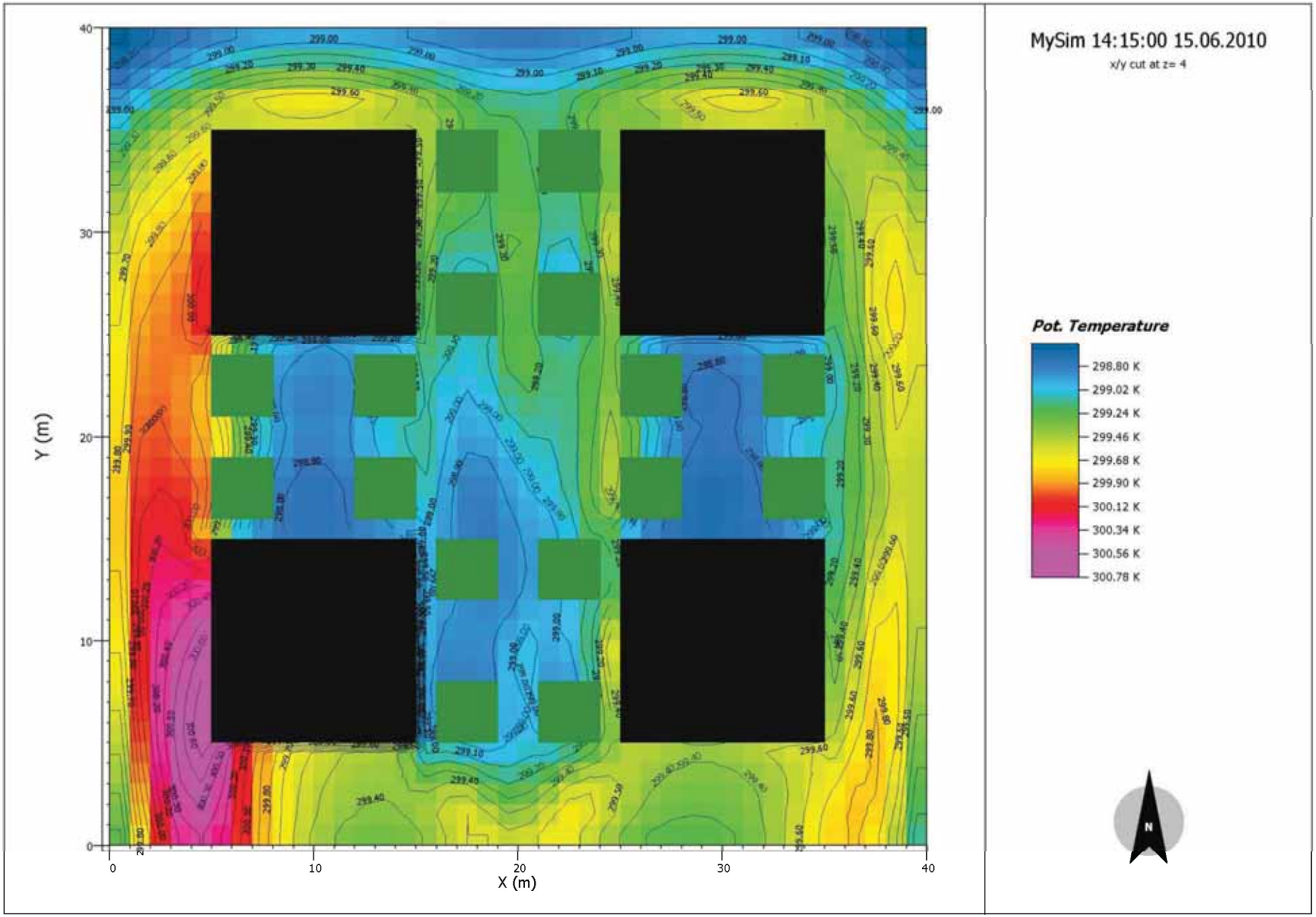

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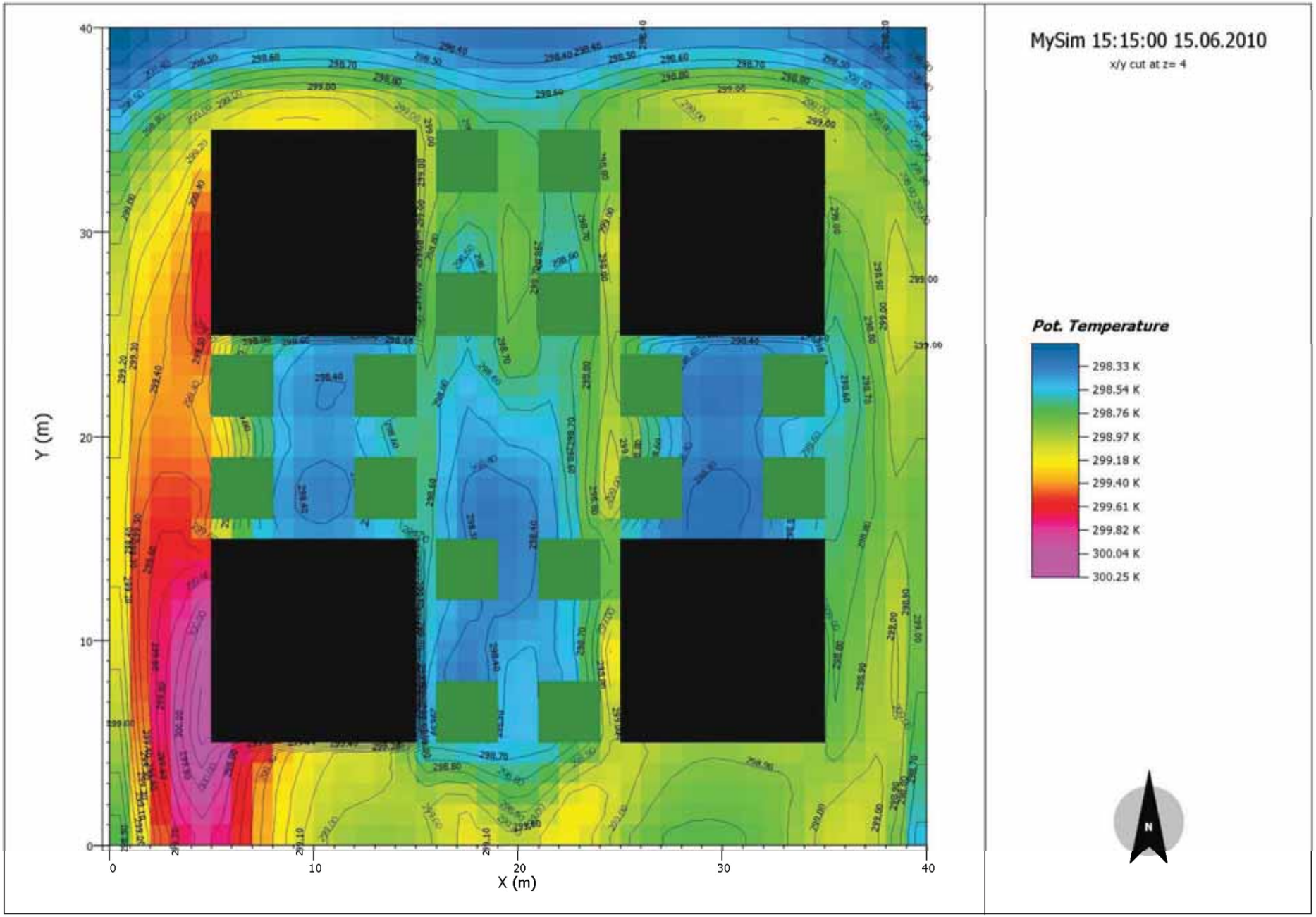

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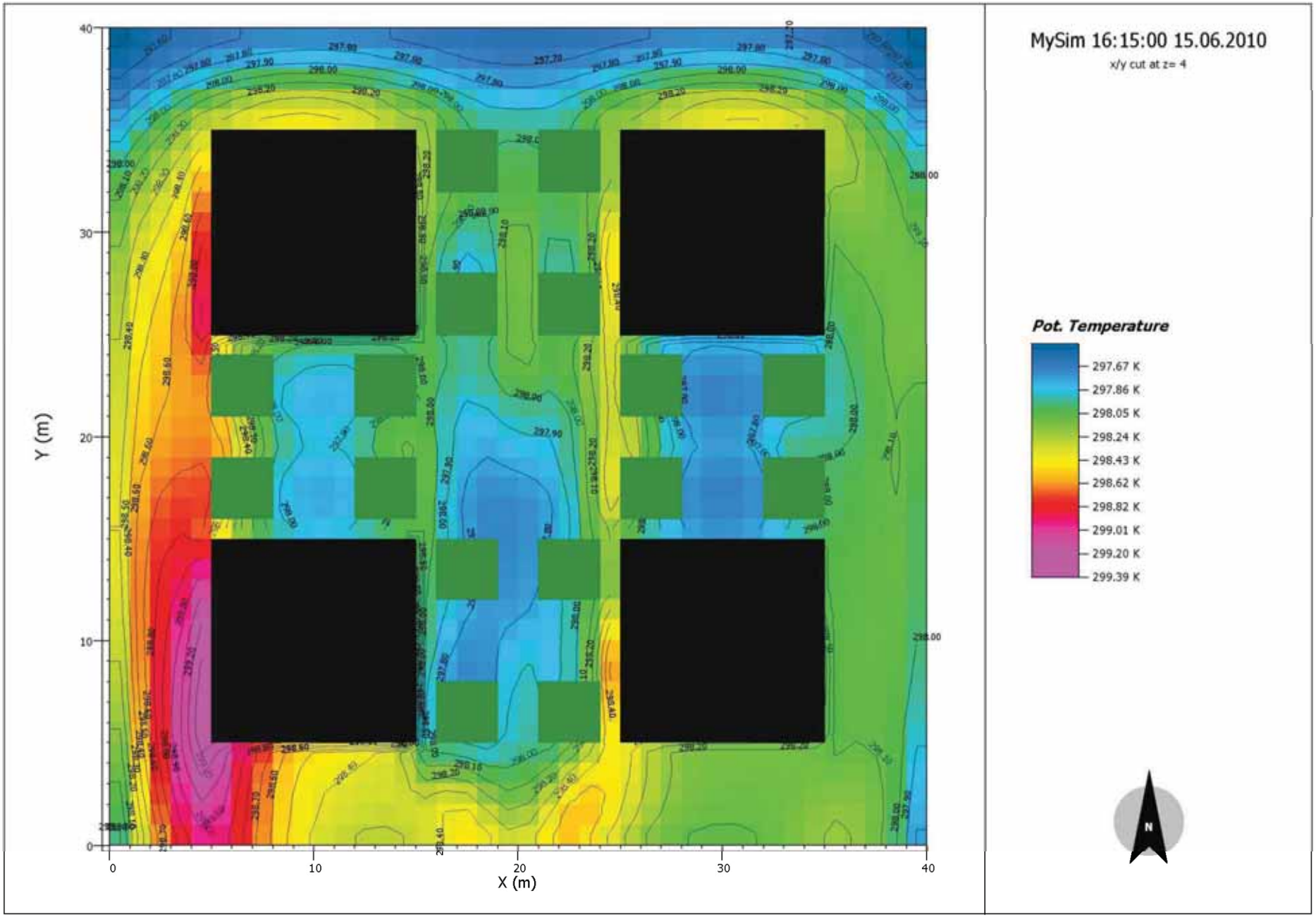

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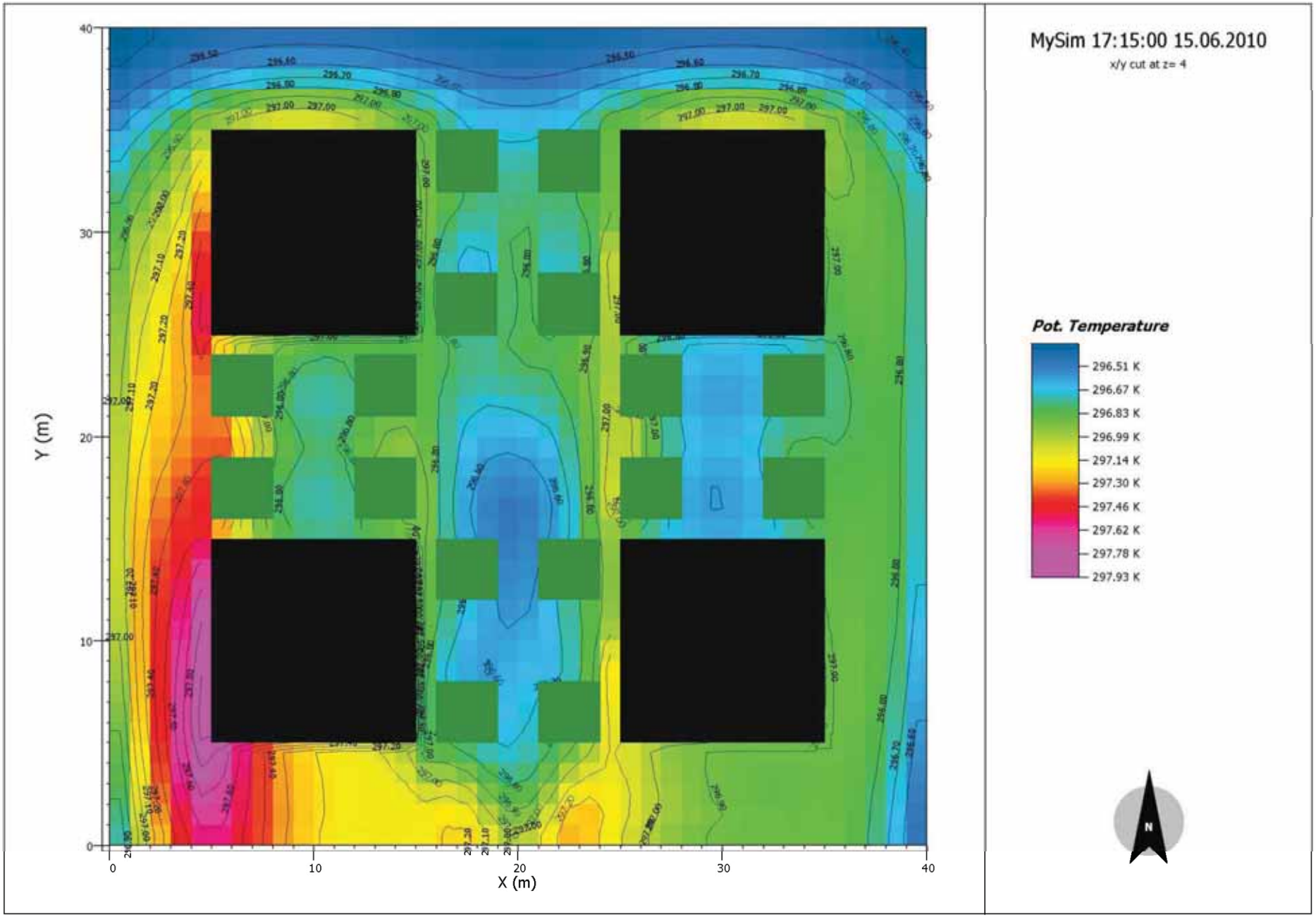

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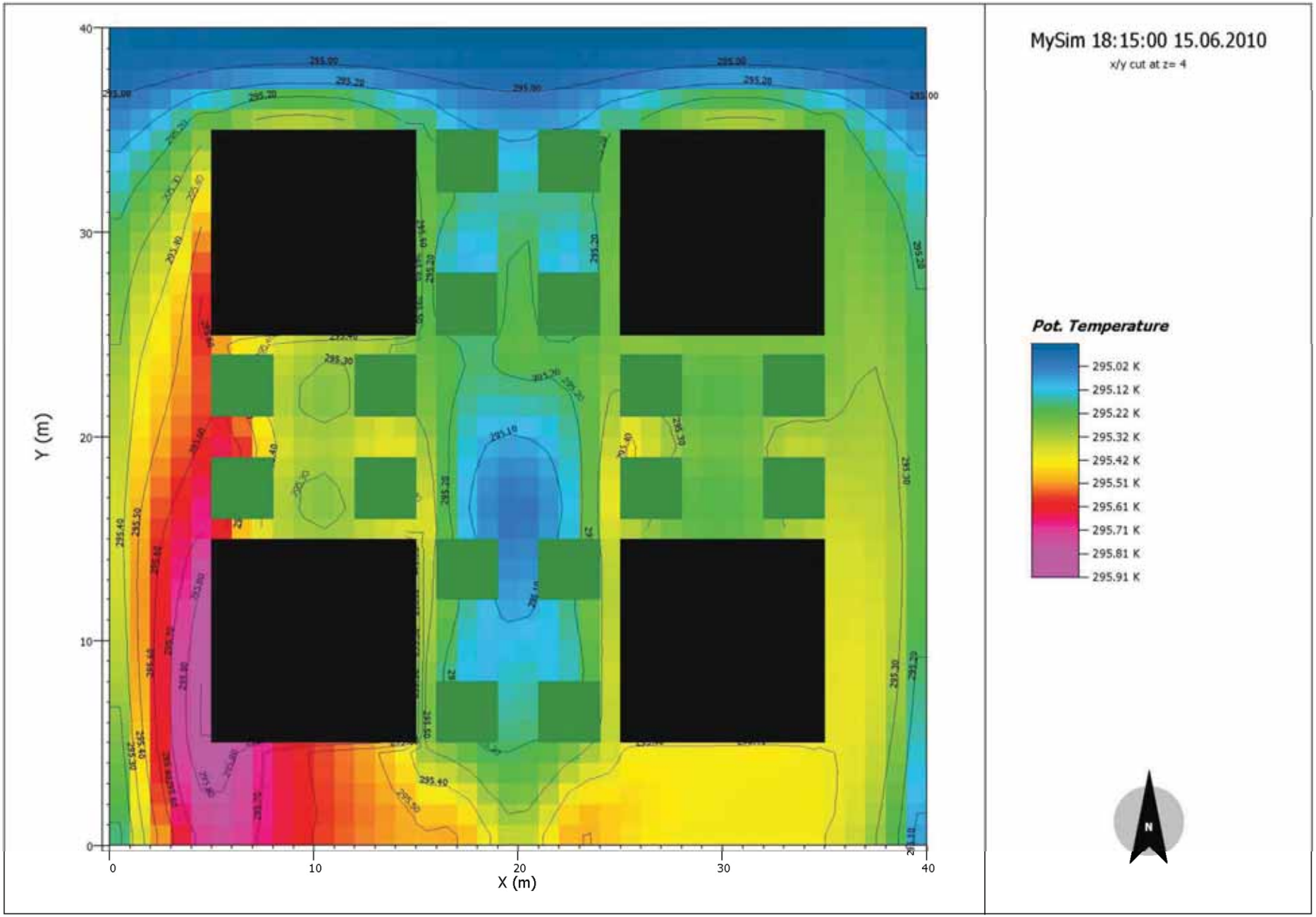

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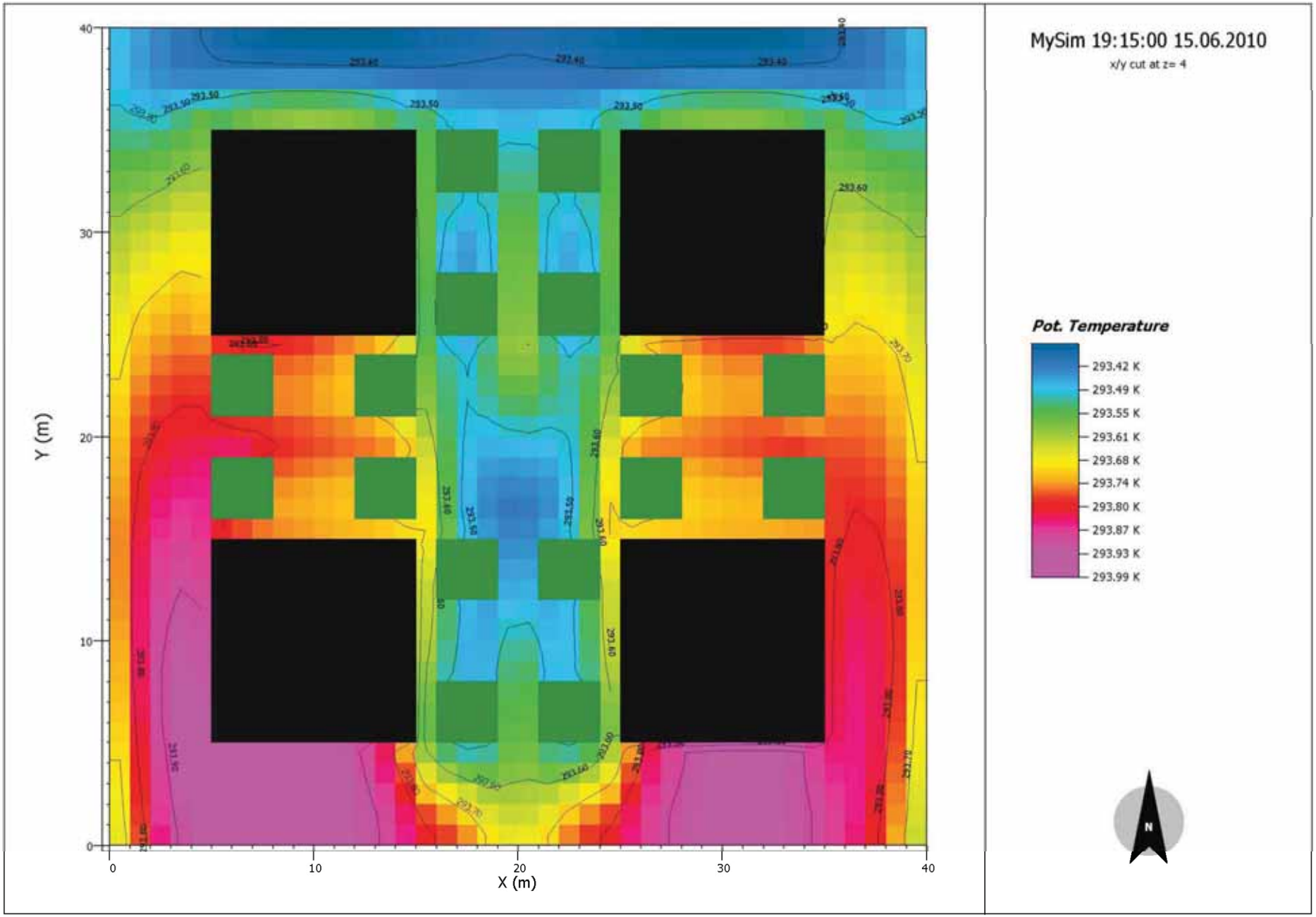

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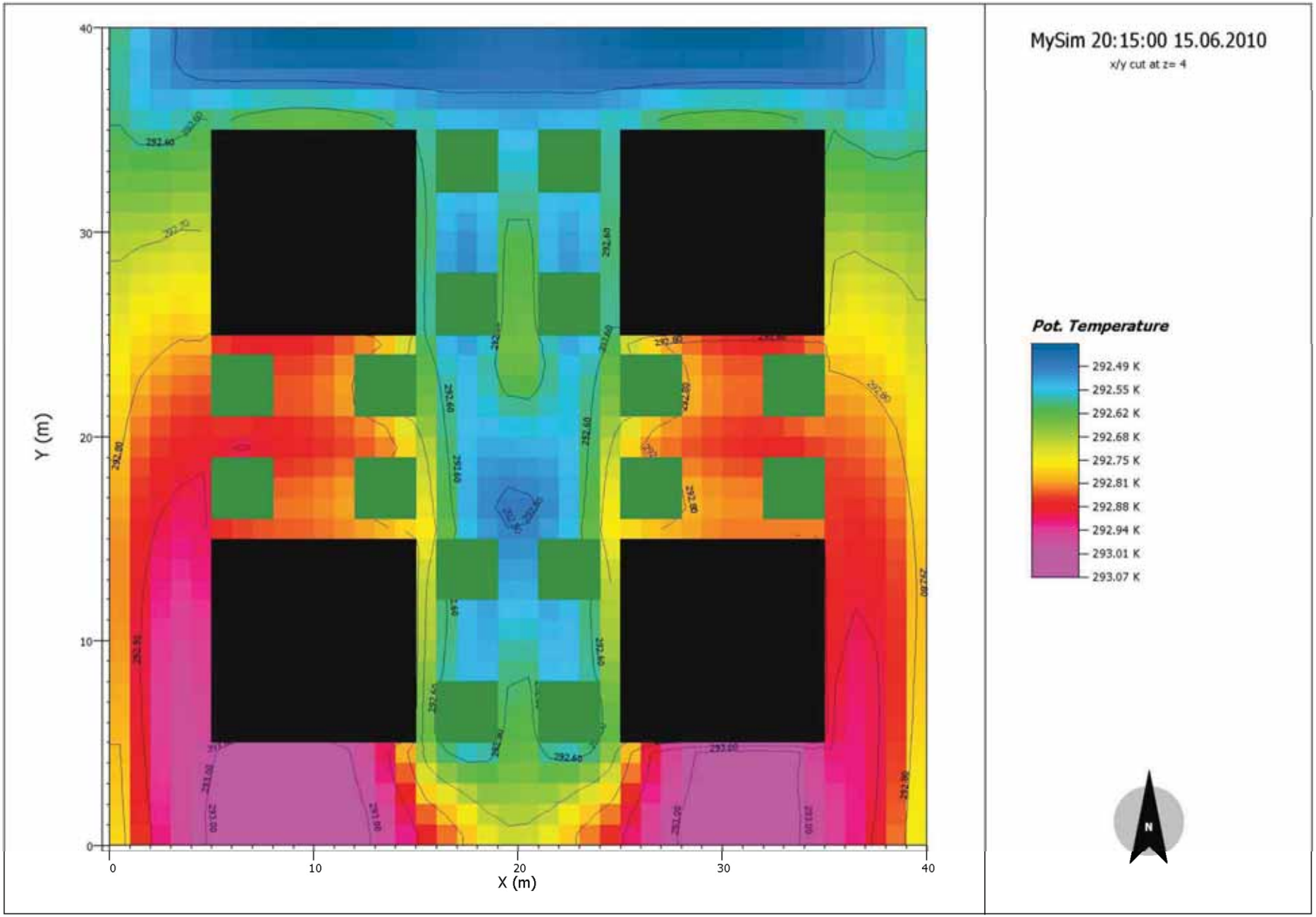

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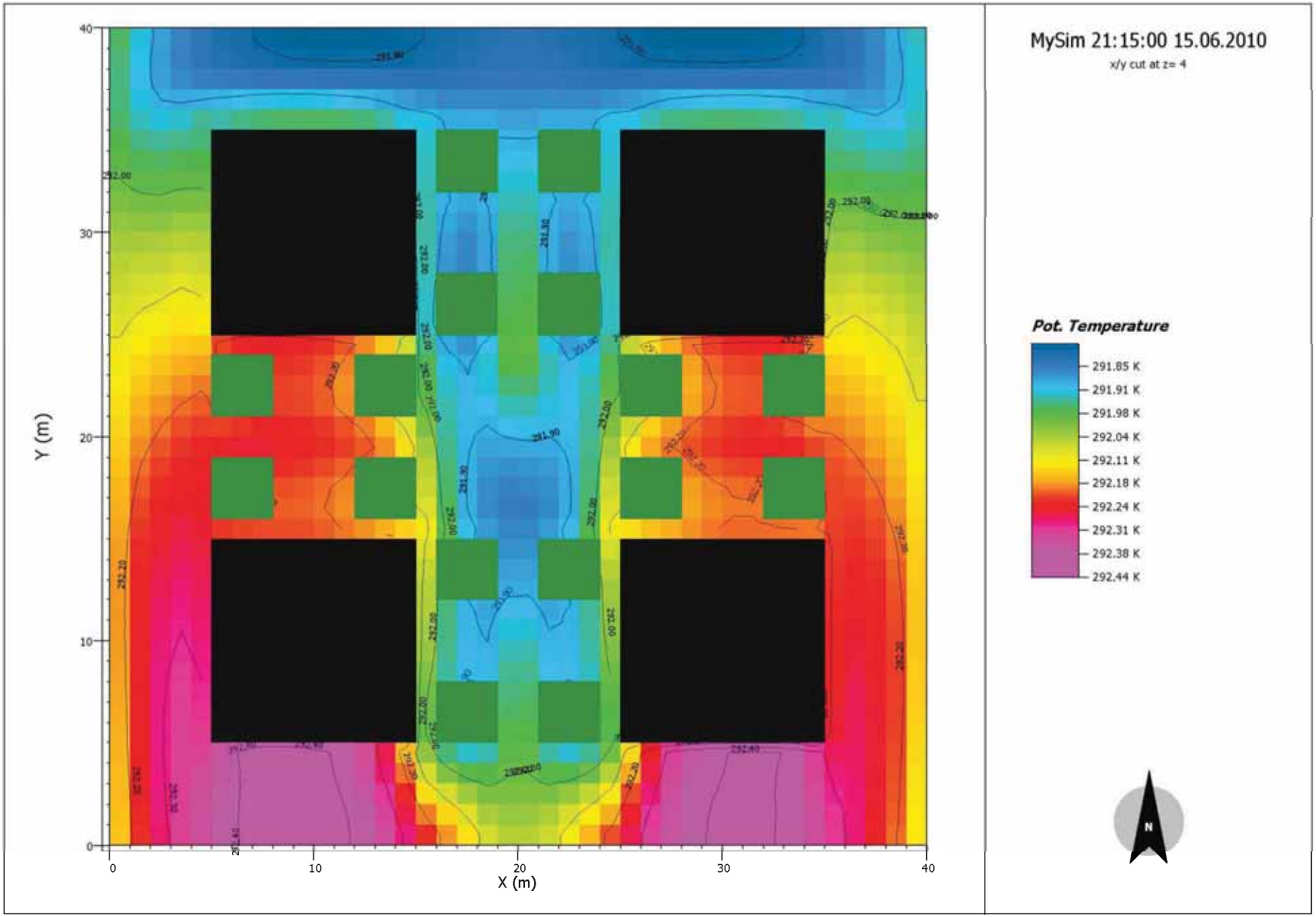

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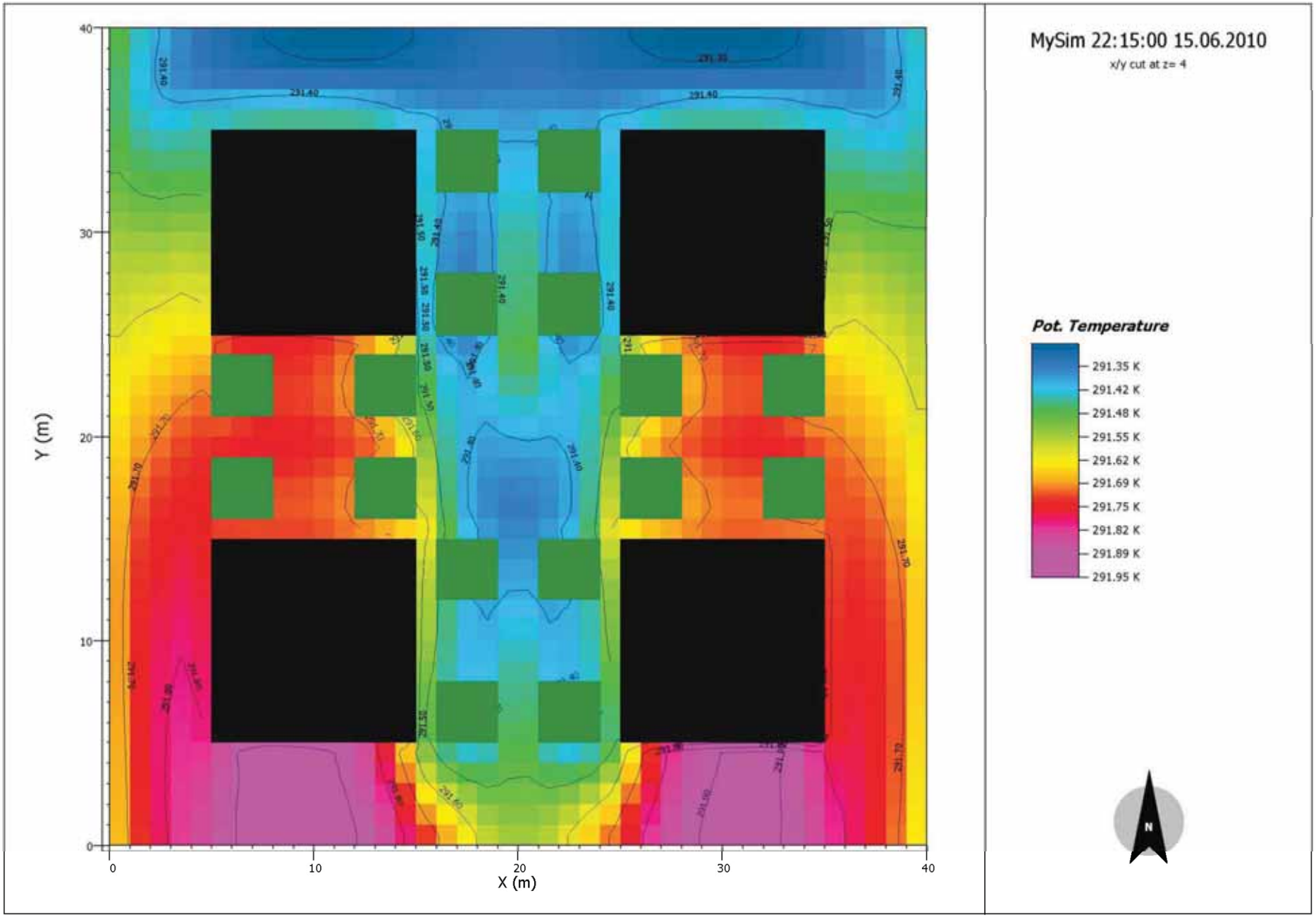

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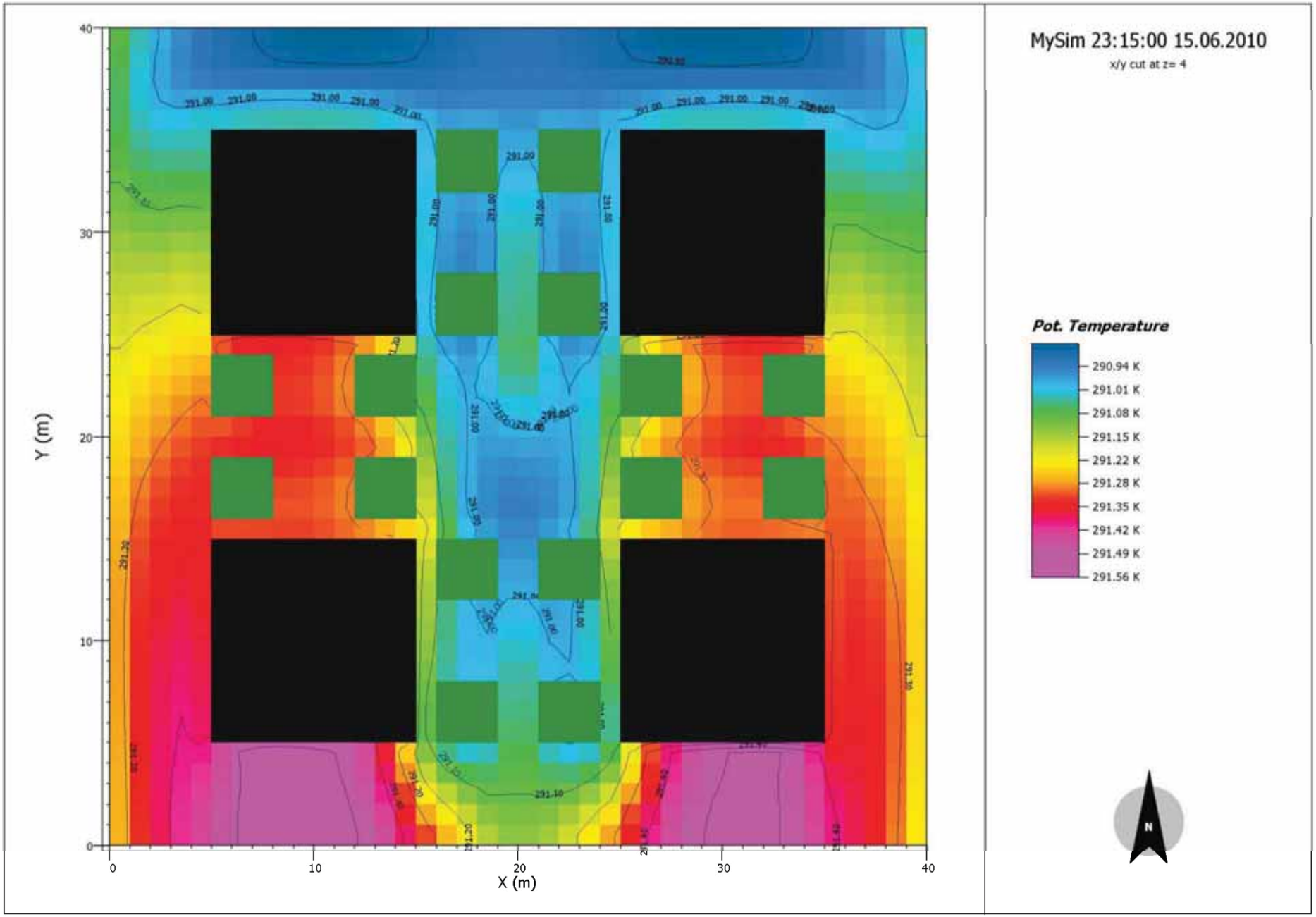

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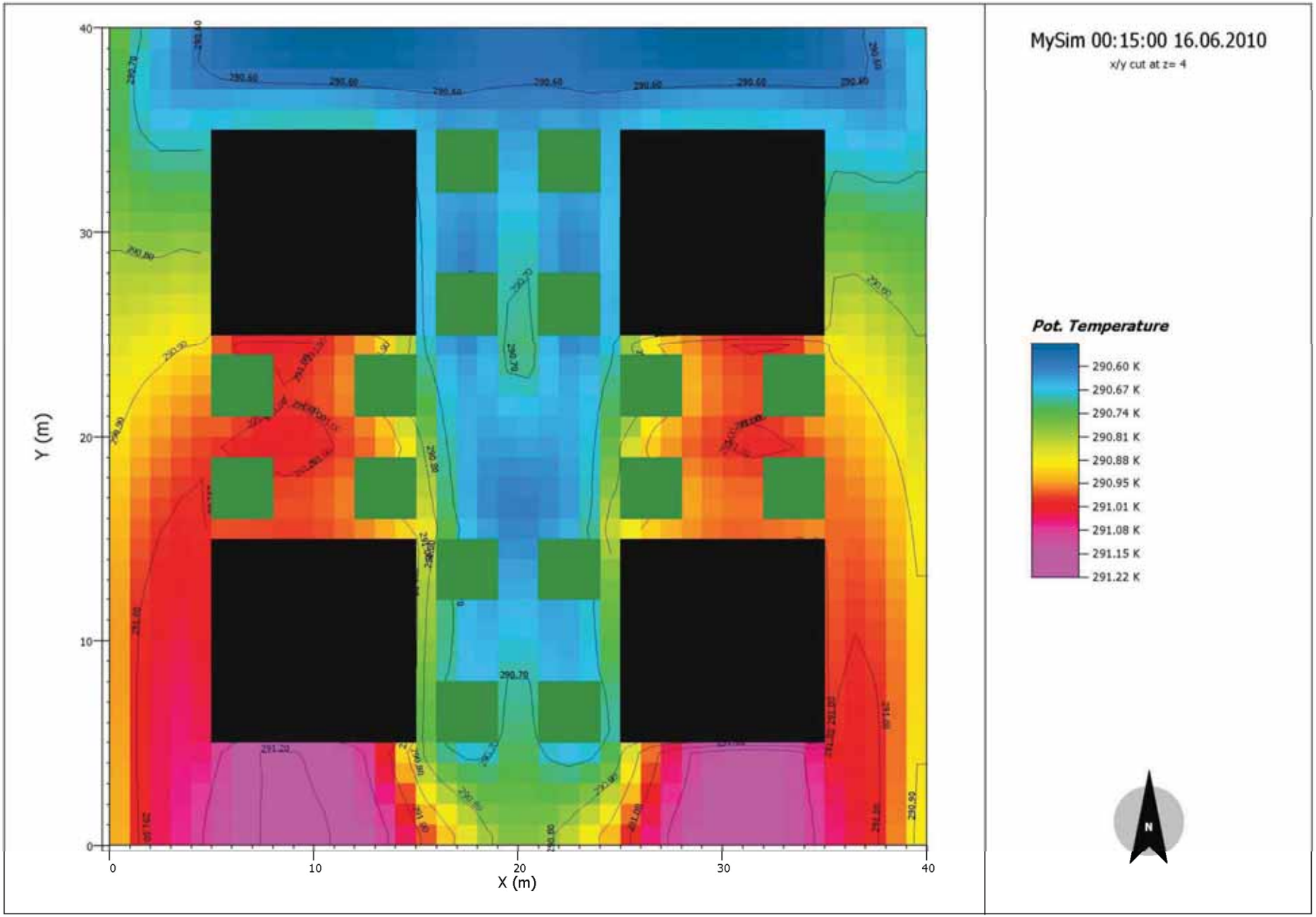

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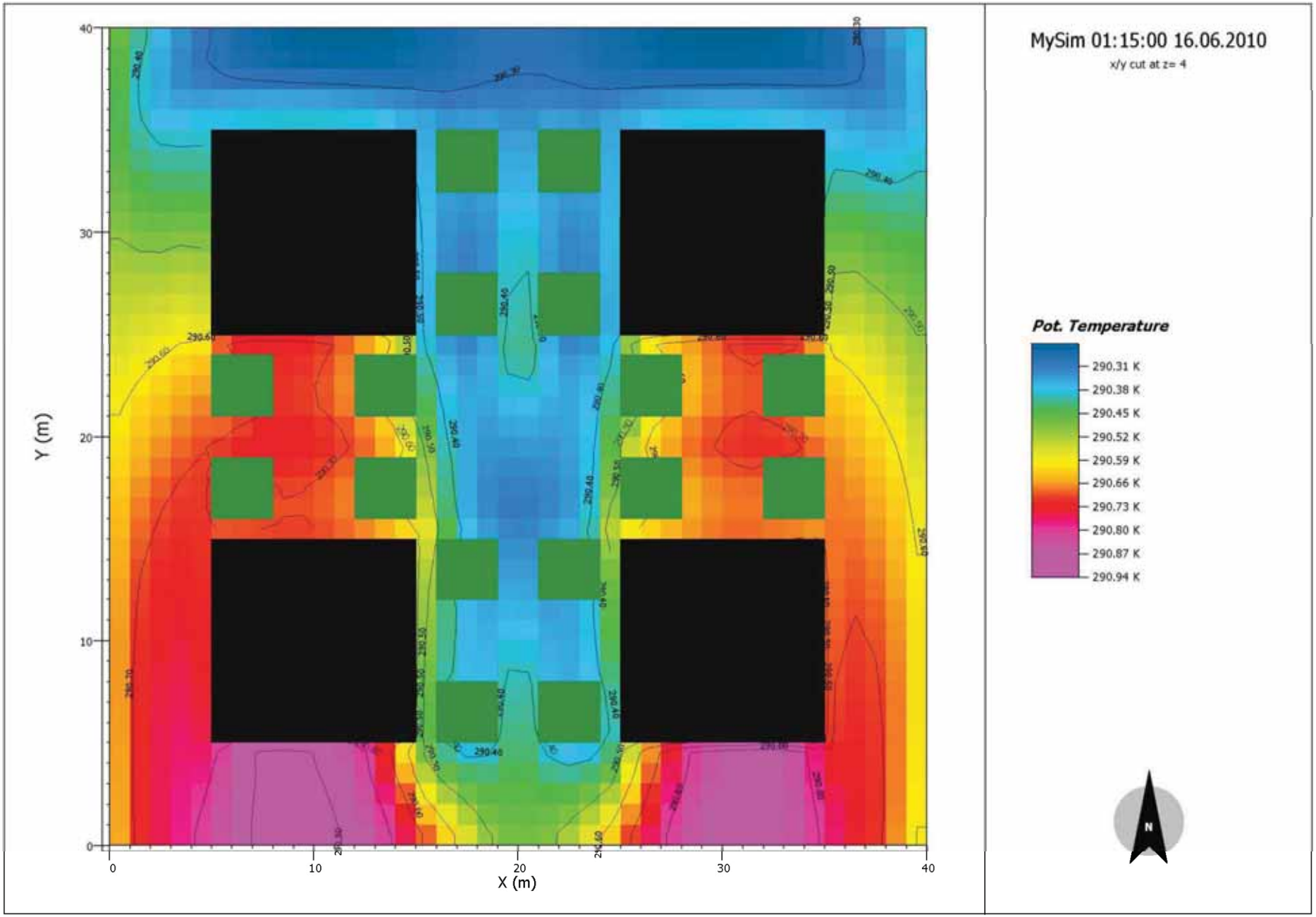

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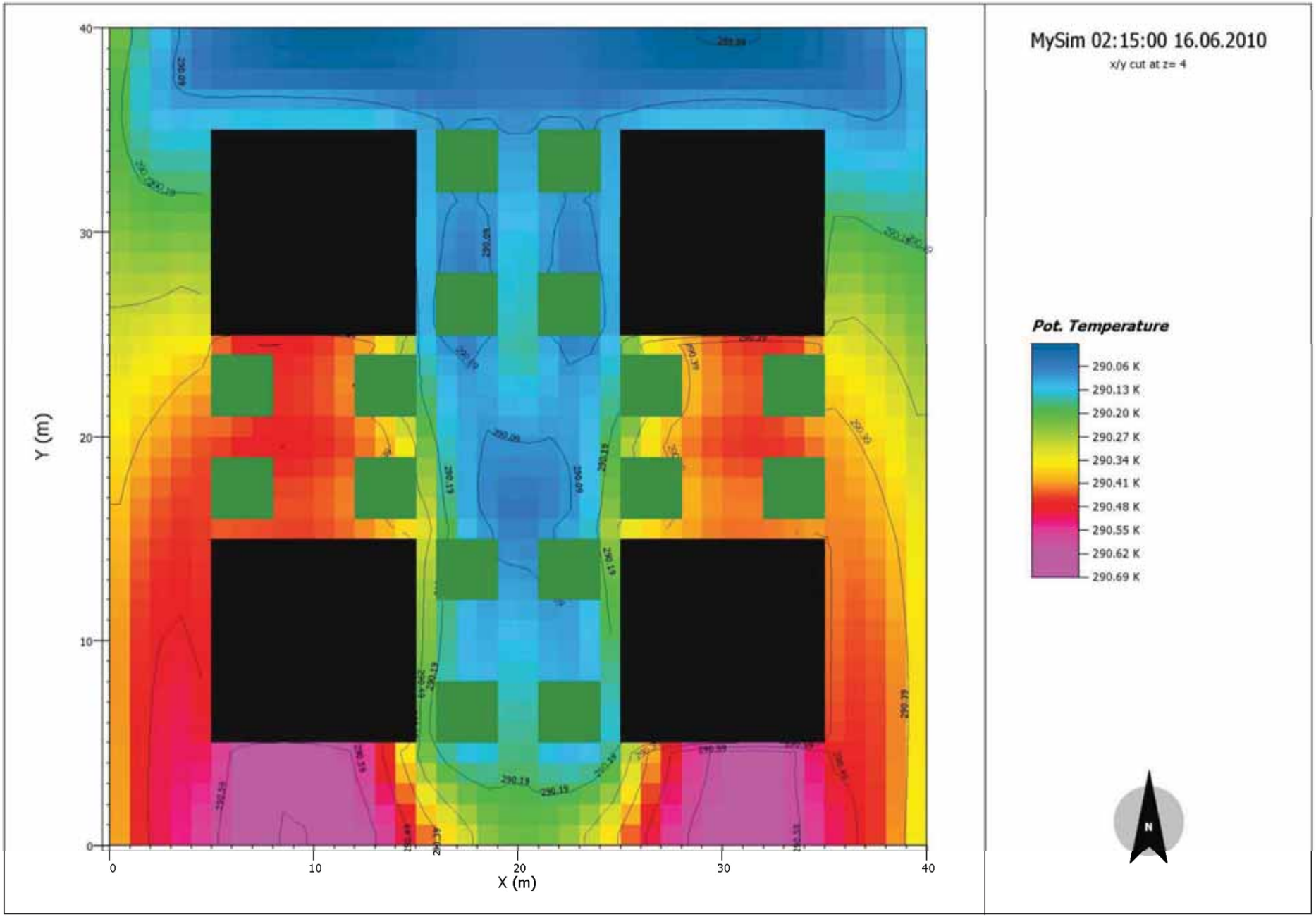

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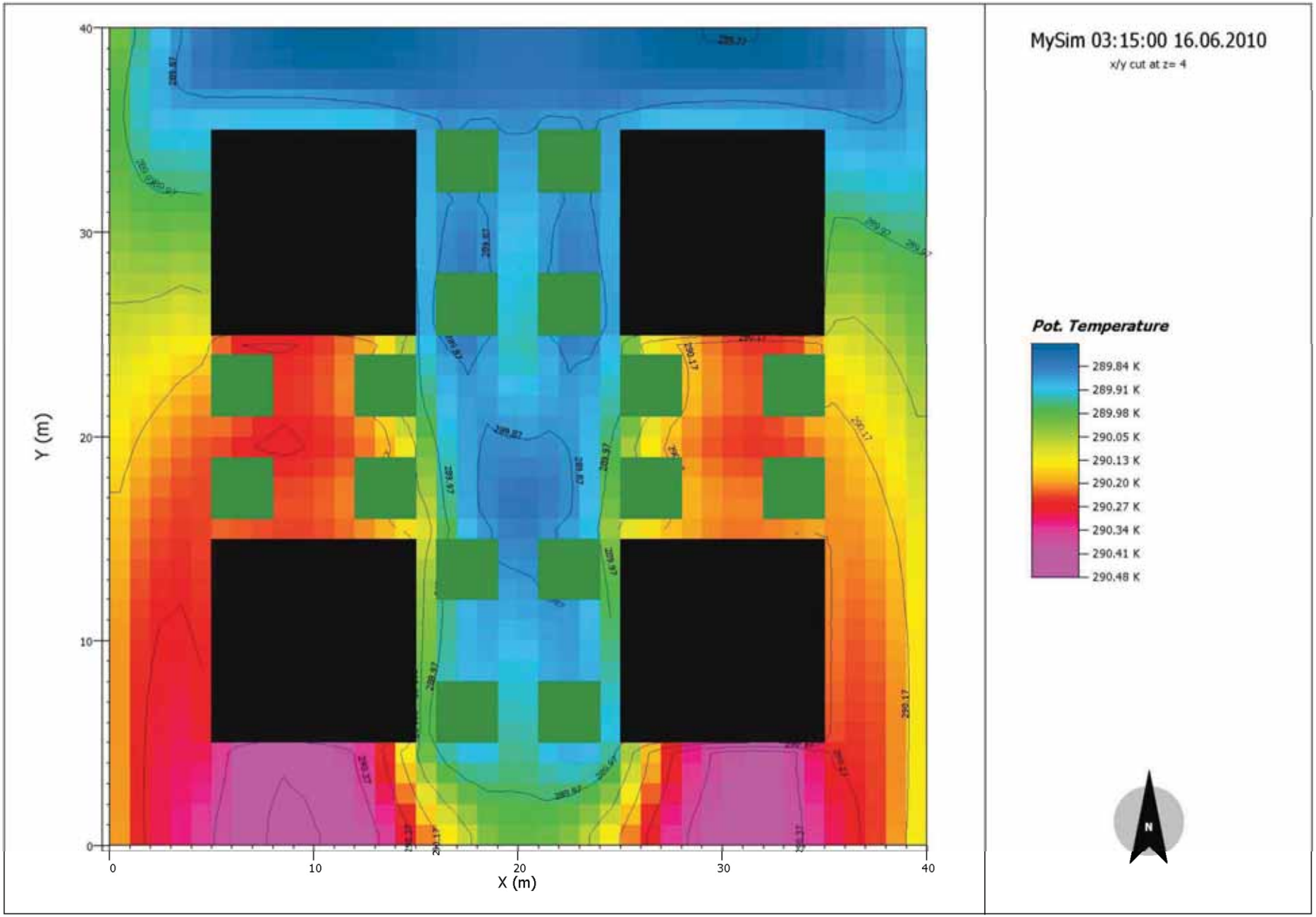

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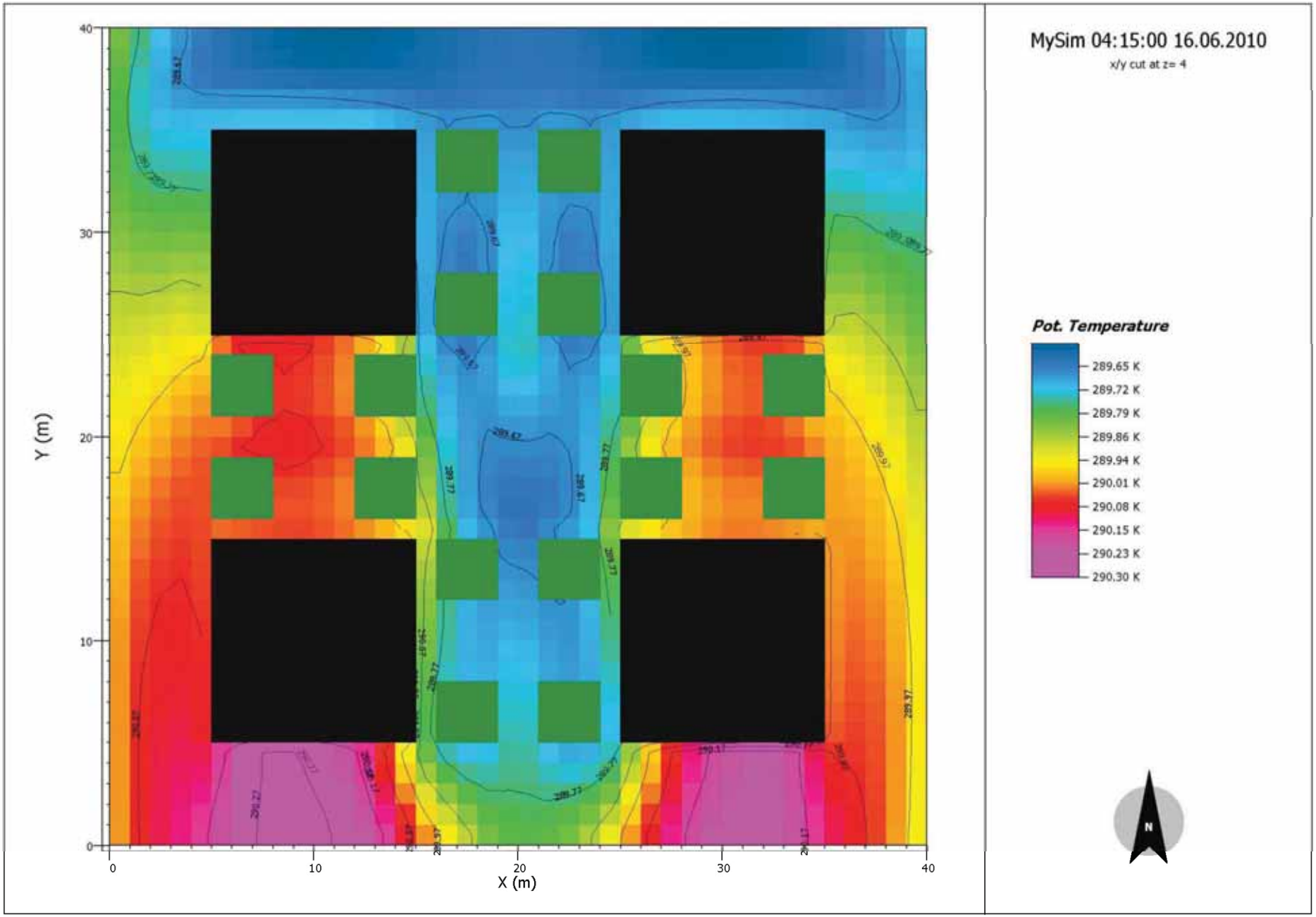

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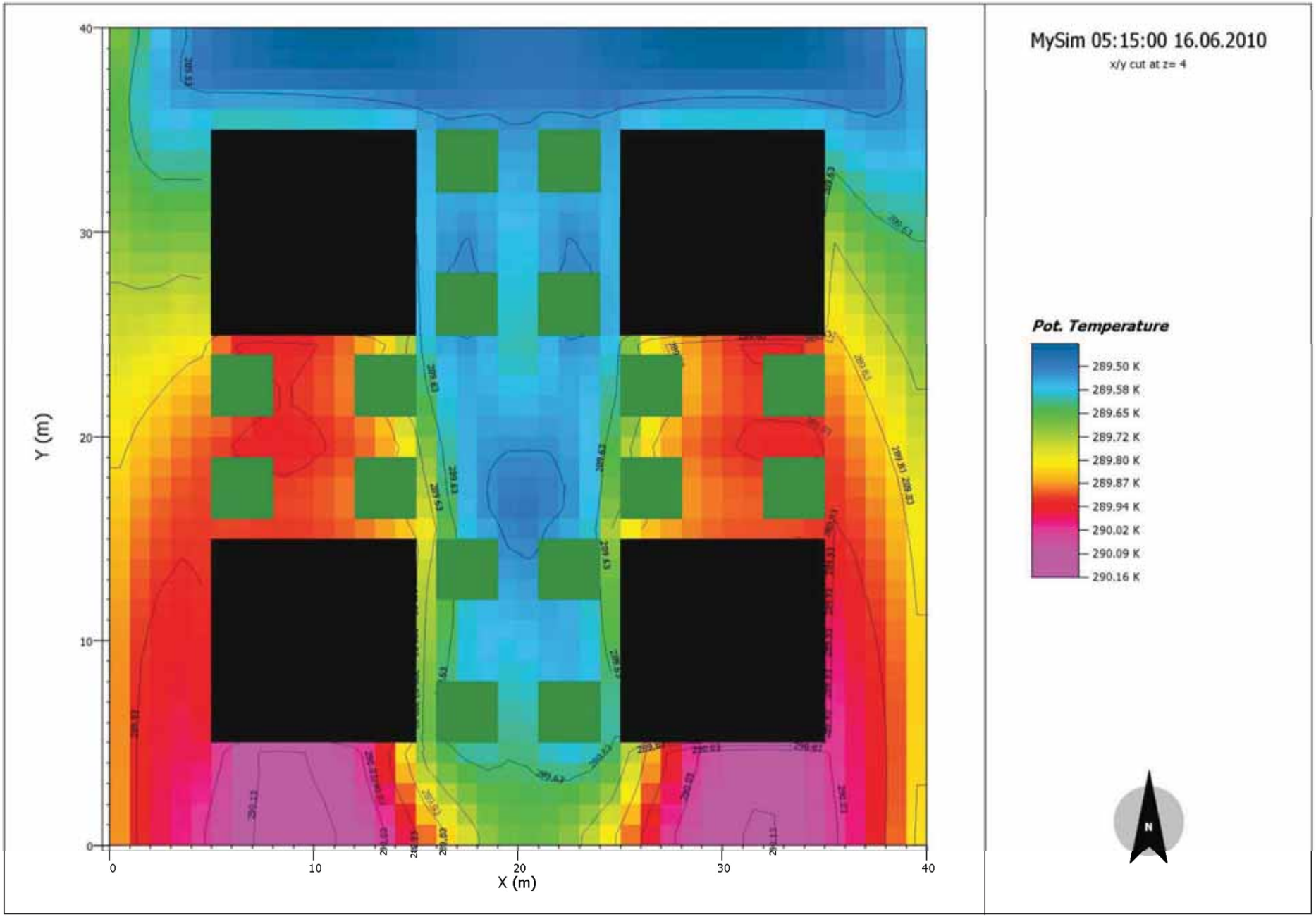

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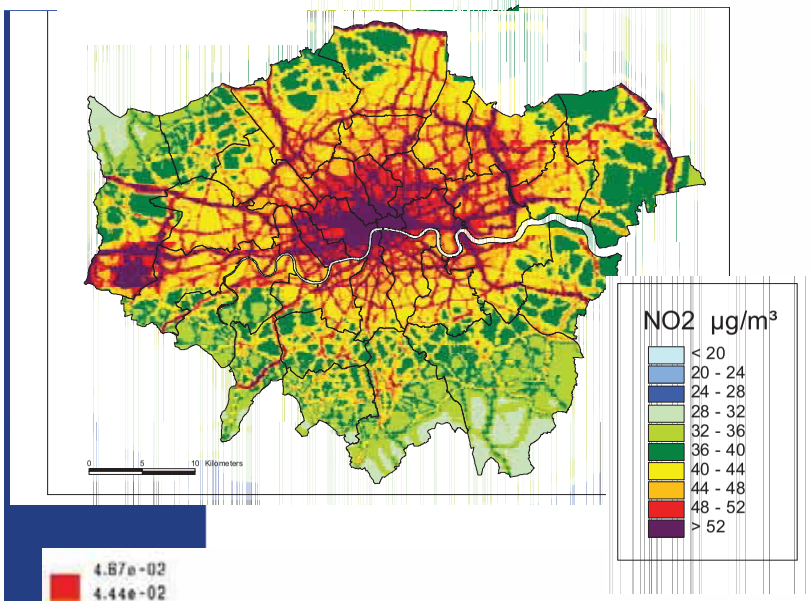
Urban Microclimate
CITIES / NEIGHBORHOODS / STREETS

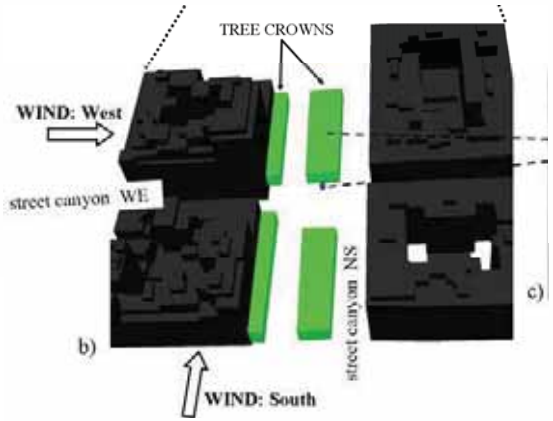
Greater London 1999
Annual mean NO2 concentrations

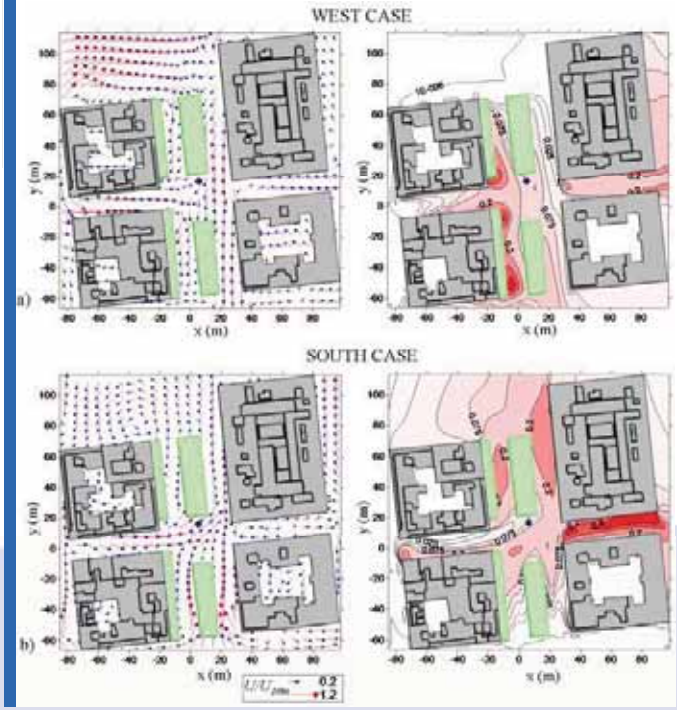


European Union

Lecce (IT)

Fluid-dynamics simulations
The role of urban trees





Bari (IT)

Connecting cities
Building successes
URB ACT

LECCE BHC: URBAN REGENERATION AND SUSTAINABILITY

The future: “healthy paths” using an enligthened approach

AN URBACT II PROJECT

people

needs

Technical EXPERTISE

CREATIVITY & MULTI-DISCIPLINARY APPROACH

LOCAL AUTHORITIES

ECONOMICAL FEASIBILITY AND POLITICAL PRIORITIES

SCIENTISTS & SUBJECT EXPERTS

KNOWLEDGE SCIENTIFIC EVIDENCES

INNOVATIVE AND SUSTAINABLE INTERVENTION STRATEGIES

European Union

Connecting cities
Building successes

URB ACT

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AN URBACT II PROJECT

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European Union

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Connecting cities
Building successes

URB ACT

AN URBACT II PROJECT

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European Union

Connecting cities
Building successes

URB ACT

AN URBACT II PROJECT

Grazie Thanks
Danke Merci Gracias
Ευχαριστώ mulţumesc
Takk dziękuję dakujem hvala
Obrigado dziękować
tänan kiitos köszönöm aciu
Tack děkuji paldies
niżżik ħajr dank u wel

European Union

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EUROPEAN PROGRAMME FOR SUSTAINABLE URBAN DEVELOPMENT
URBACT