



UNIVERSITÀ DI PISA

THE TITLE OF YOUR THESIS GOES HERE
AND HERE

Submitted in partial fulfilment of the requirements for the

MASTER OF SCIENCE DEGREE IN
NUCLEAR ENGINEERING

CANDIDATE

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SUPERVISORS

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ABSTRACT

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Acknowledgments

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1. INTRODUCTION

1.1. Titles, Section, Subsection

Different titles, sections, and subsections can be created by selecting the following styles:

1. Title → Styles → Heading 1

1.1. Section → Styles → Heading 2

1.1.1 Subsection → Styles → Heading 3

By selecting all the text (Ctrl+A for Windows and Cmd+A for macOS) and updating the field (right click and ‘update all the fields’), the table of contents will also be updated, as well as the list of tables and figures.

1.1.3. Subsection

Titles, sections and subsections should be in CMU Serif bold, while the main text should be in regular CMU Serif (If the mentioned font is chosen).

1.2. References

Zotero can help manage references, but it’s also possible to handle them directly in Word. If you choose to use Zotero, I’ve created a customised version of the IEEE citation style (IEEE.mod.csl) that includes access dates for websites in the bibliography.

For further information on how to use the Zotero tool, check it online.

1.3. Equations

The equations should be inserted in a transparent table as shown below. This allows the equation number to be right-aligned. Since this is a manually created field and not automatic, to update it, use the provided additional tool or select all the numbers and update the fields. Moreover, it is possible to copy and paste the following table and then change the equation inside, which will add a new equation number to be updated.

$\rho_m \frac{\partial h_m}{\partial t} + G_m \frac{\partial}{\partial l} h_m - \frac{\partial}{\partial t} p = \frac{q'' P_h}{A} + \frac{G_m}{\rho_m} \frac{f G_m G_m }{2 D_h \rho_m} - \rho_m g \cos \theta$	(1)
---	-----

Eq. 1 Becomes:

$$\rho_m \frac{\partial h_m}{\partial t} + G_m \frac{\partial}{\partial l} h_m - \frac{\partial}{\partial z} p = \frac{q'' P_h}{A} + \frac{G_m}{\rho_m} \frac{f G_m |G_m|}{2 D_h \rho_m} - \rho_m g \cos \theta \quad (2)$$

The only font to be used in equations, which closely matches the main text font, is 'Latin Modern Math'. If it is not already included in the template, it should be added manually. It is provided in the fonts folder.

1.4. Tables

Tables can be created by copying and pasting this one, adding or removing rows/columns, and modifying the colours as needed.

Properties/Coolant	Water (PWR)	LBE	Lead	Na
$T_{melting}$ [°C]	-0.6	125	327	97,8
$T_{boiling}$ [°C]	345	1670	1737	885
ρ [kg/m ³]	652	10000÷10700	10000÷10700	850
μ [Pa s]	$7.2 \cdot 10^{-5}$	$2 \div 3 \cdot 10^{-3}$	$2 \div 3 \cdot 10^{-3}$	$2 \div 3 \cdot 10^{-4}$
C_p [J/(kg K)]	6.74	140÷150	140÷150	1250÷1280
λ [W/(m K)]	0.5	16÷24	9÷20	65÷75

Table 1: Here goes the Table description

To add a reference to a table, go to 'References' → 'Insert Caption' and select 'Table'.

To reference a figure or table in the text: go to 'References' → 'Cross-reference' → select 'Figure' or 'Table' → choose what to insert, for example, 'Entire caption' or 'Only label and number'.

1.5. Figures

Each figure should be numbered and referenced in the text. Specifically, the reference to the figure should appear before the figure itself.

- PDF: for vector graphics (scalable without loss of resolution);
- JPG: for photographs.
- PNG: for other types of raster graphics.

In this context, *Figure 1* was created using a PDF file. *Figure 2* and *Figure 3* illustrate the quality differences between graphic formats. Both display the binding energy per nucleon, but the first uses a .pdf file, while the second uses an uncompressed .png file.

Avoid overcrowded figures, as they can be visually tiring; include only data that is relevant to the discussion.

To add a reference to a figure, go to 'References' → 'Insert Caption' and select 'Figures'.

Each caption should end with a dot.

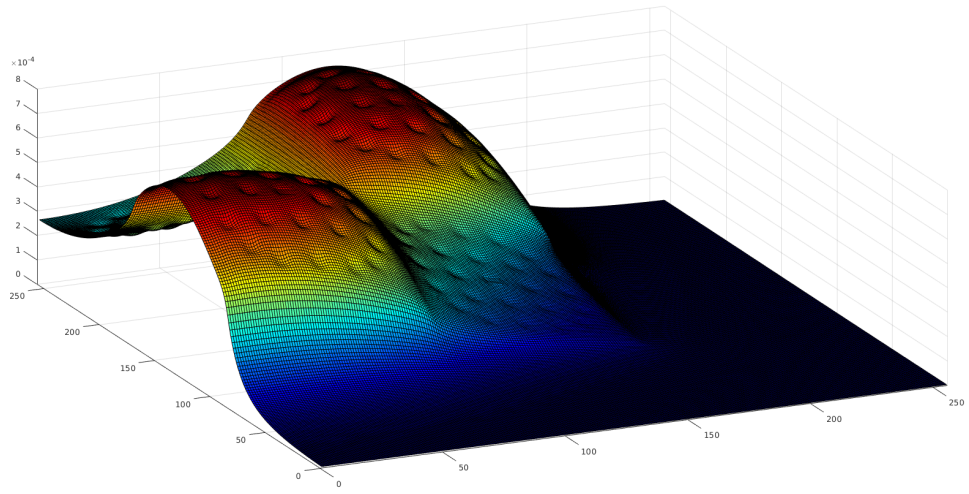


Figure 1: Detailed Distribution of fast neutron flux.

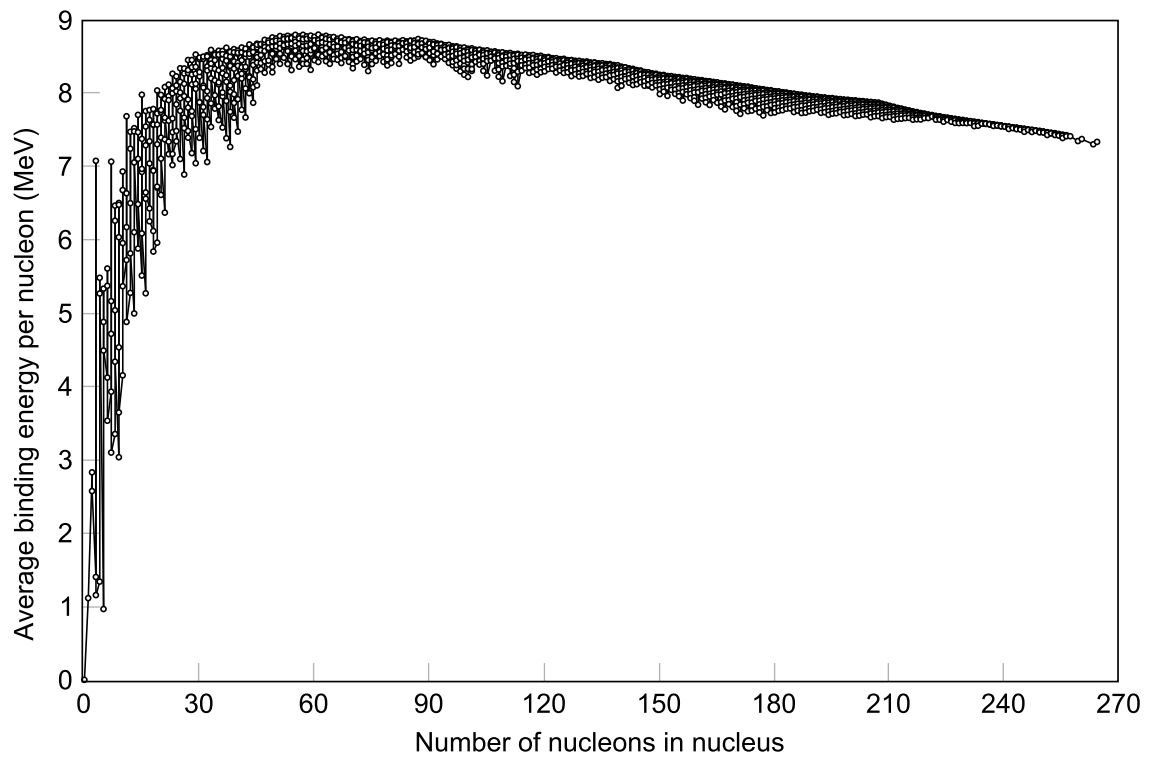


Figure 2: Binding Energy per Nucleon: from .pdf file.

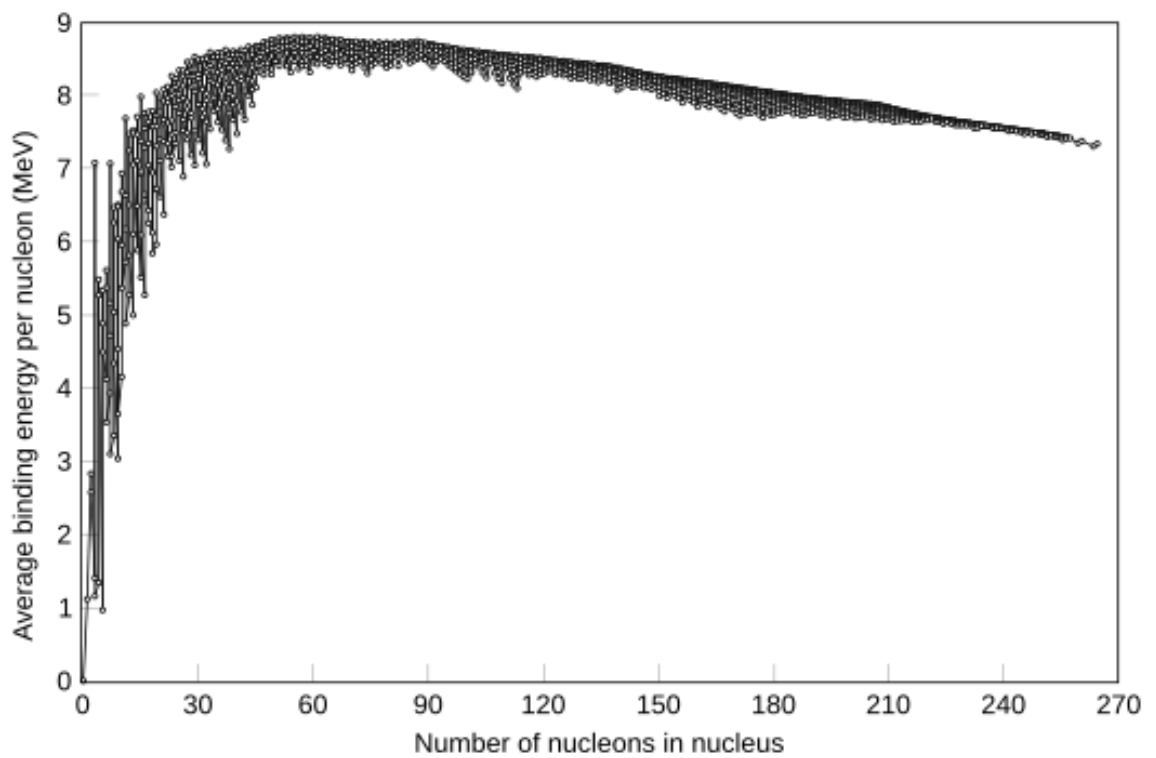


Figure 3: Binding Energy per Nucleon: from .png file.

1.6. Layout Check

Make sure the page layout settings in the template have been preserved. Go to "Layout" → "Margins" → "Custom Margins..." and check that the following values are set:

Top: 2.5 cm

Bottom: 2.5 cm

Left: 3 cm

Right: 2.5 cm

Moreover, go to 'Paragraph' settings and ensure the spacing is set to: Before: 0 pt, after: 8 pt. Line spacing should be set to 'Multiple' with a value of at least 1.3.

6. CONCLUSIONS

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A. APPENDIX A

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ACRONYMS

UNIFI	University of Pisa
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SYMBOLS

σ_a Absorption microscopic cross-section, [barn]

REFERENCES