Notes on Dark Matter and Data Analysis[†]

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Abstract

These are my personal notes on dark matter (DM) physics and data analysis developed to substantiate my undergraduate monograph on the *Fermi GeV excess*. Particularly, I will be using these to write my research assignments and to perform my own incursions on the above mentioned topics.

1 Dark Matter J-factors

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[†]Developed as an undergraduate research project during 2020.

A Notation

Mainly based on [Mou01].

References

[CCH+10] Marco Cirelli, Gennaro Corcella, Andi Hektor, Gert Hütsi, Mario Kadastik, Paolo Panci, Martti Raidal, Filippo Sala, and Alessandro Strumia, *PPPC 4 DM ID: A poor particle physicist cookbook for dark matter indirect detection*, 2010.

[Mou01] R.A. Mould, *Basic Relativity*, Springer Study Edition, Springer New York, 2001.

Glossary

DM Dark Matter

WIMP Weakly Interacting Massive Particle