Monte Carlo simulation of the CUPID array

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CUPID experiment

- Proposed $0\nu\beta\beta$ experiment using bolometric array of 1596 lithium molybdate crystals, repurposing the CUORE cryostat.
- Aims to eliminate dominant background of alpha particles
- We would like to check before deploying the detector that no other backgrounds may be added to our idealized scenario.

lithium molybdate

- Li_2MoO_4 crystals allow for discrimination of alpha backgrounds from $\beta\beta$ events (Q=).
- relatively high isotopic abundance of ^{1}00Mo (10
- enrichment above 95 already demonstrated in CUPID-Mo

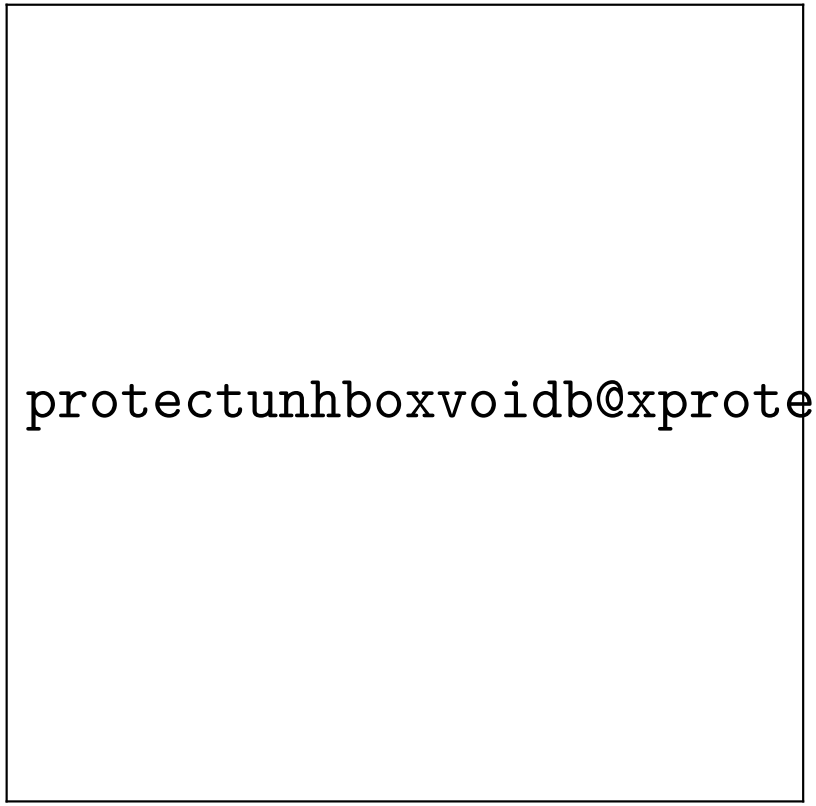

Figure: gnarly

test frame for copying

- guy
- man
- dude

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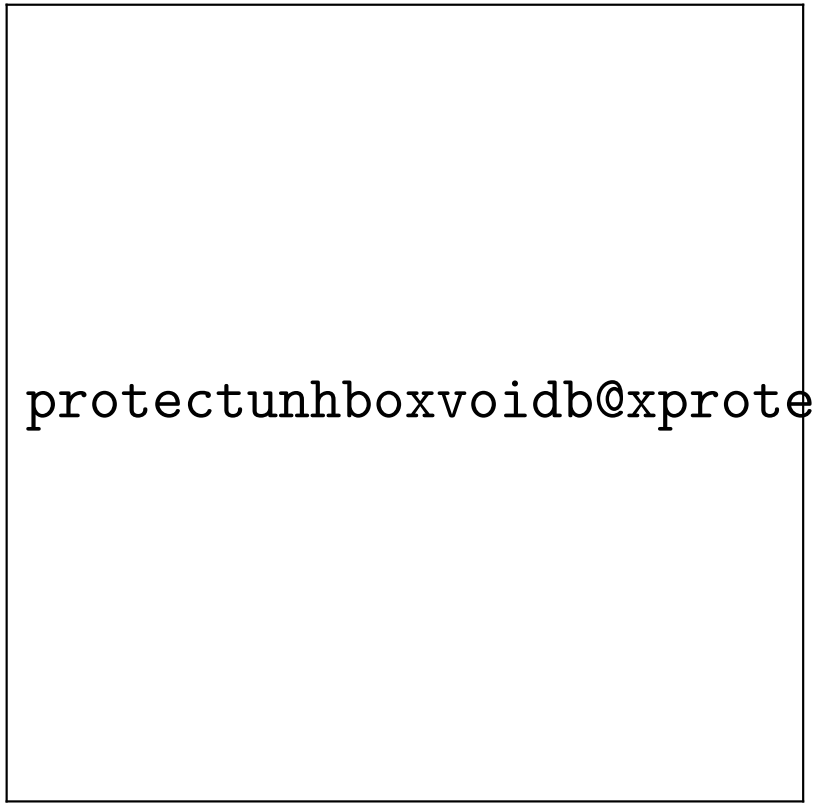

Figure: gnarly

CUORE and alpha particles

CUORE is a massive bolometric detector searching for $0\nu\beta\beta$ decay in ^{130}Te.

Blocks of Highlighted Text

Block 1

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Multiple Columns

Heading

1. Statement
2. Explanation
3. Example

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Table

Treatments	**Response 1**	**Response 2**
Treatment 1	0.0003262	0.562
Treatment 2	0.0015681	0.910
Treatment 3	0.0009271	0.296

Table: Table caption

Theorem

Theorem (Mass–energy equivalence)

$E = mc^2$

Verbatim

Example (Theorem Slide Code)

```
\begin{frame}
\frametitle{Theorem}
\begin{theorem}[Mass--energy equivalence]
$E = mc^2$
\end{theorem}
\end{frame}
```

Figure

Uncomment the code on this slide to include your own image from the same directory as the template .TeX file.

Citation

An example of the `\cite` command to cite within the presentation:

This statement requires citation [Smith, 2012].

References

John Smith (2012)

Title of the publication

Journal Name 12(3), 45 – 678.

The End