

# Absolute and relative cross section measurements of $^{237}\text{Np}(n,f)$ and $^{238}\text{U}(n,f)$ at NPL

POSTER P117

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## Motivation

Study  $^{237}\text{Np}(n,f)$  and  $^{238}\text{U}(n,f)$  to benchmark  $(n,f)$  cross section measurements in the fast energy region (0.5-3MeV).

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Absolute cross section measurement.

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## NPL VdG

1. Low scatter-area



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## Experiment

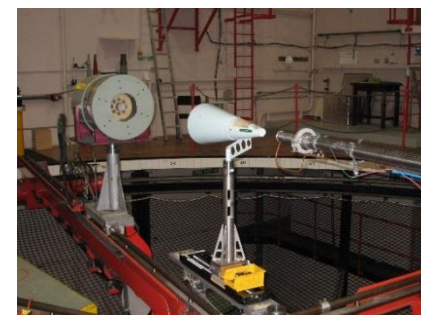
Absolute cross section measurement.

## NPL VdG

1. Low scatter-area
2. Long counter



absolute fluence



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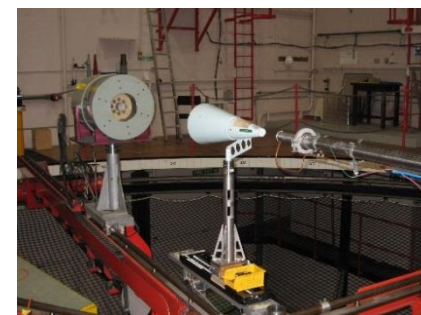
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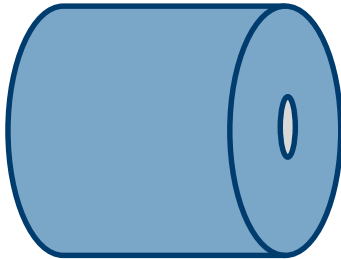
## Fission detector

Twin Frisch-Grid Ionization Chamber



# Absolute cross section measurements

- (1) Fluence measurement with a Long counter
- (2) Fluence meas. with shadow cone + Long counter

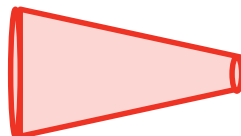
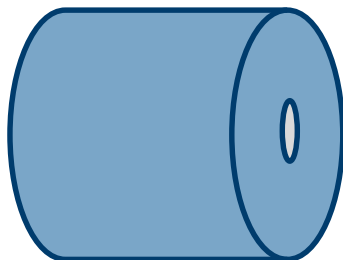


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Fluence  
per  
current  
integrated



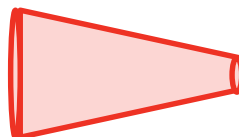
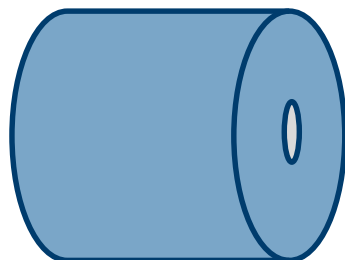


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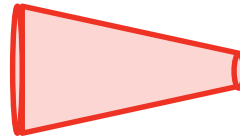
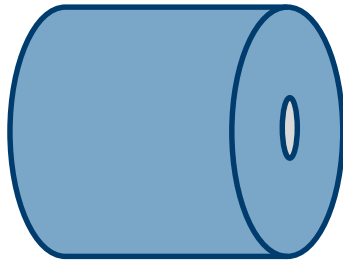
- (3) TFGIC with 2 samples ( $^{237}\text{Np}/^{238}\text{U}$ )
- (4) TFGIC with 2 samples ( $^{237}\text{Np}/^{238}\text{U}$ ) + shadow cone

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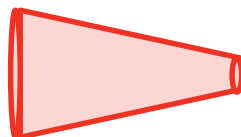
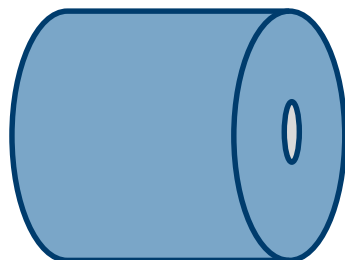


Relative  
XS meas.

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Absolute  
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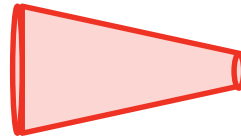
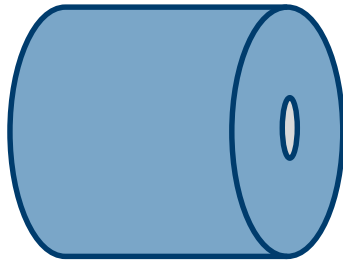
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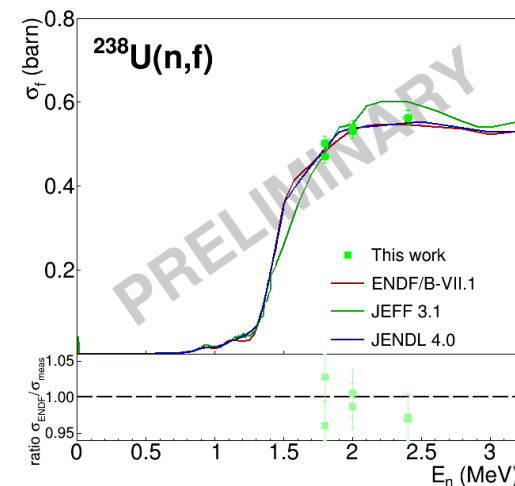
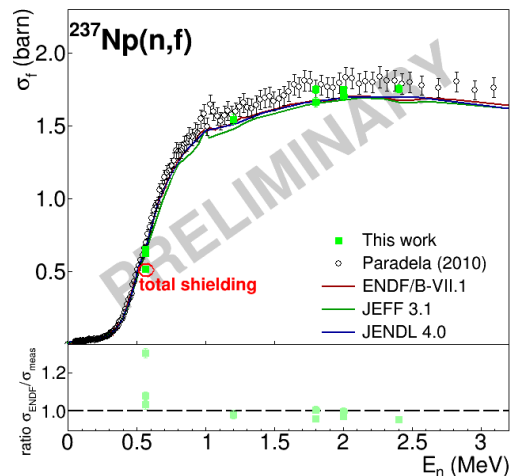
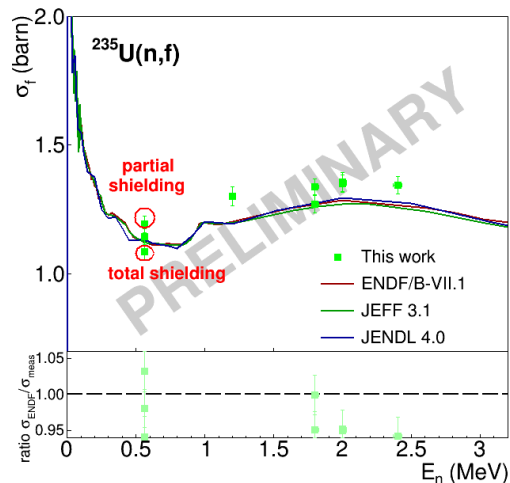
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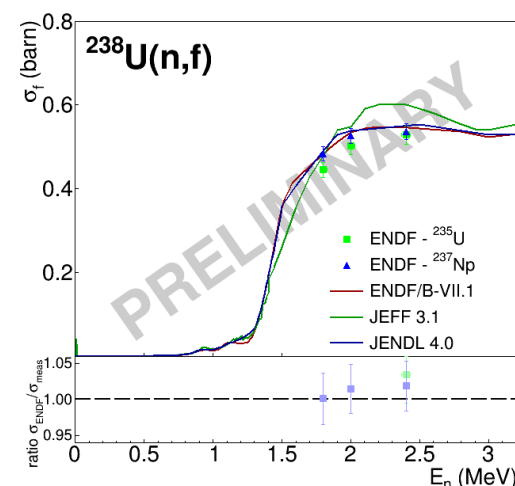
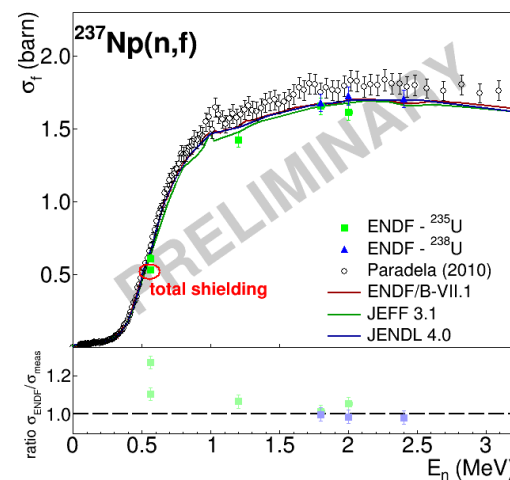
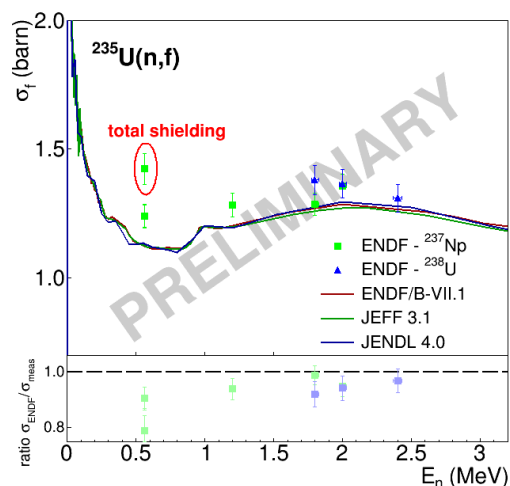
Relative  
XS meas.

# Preliminary results

Absolute



Relative





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& Industrial Strategy

**FUNDED BY BEIS**

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