

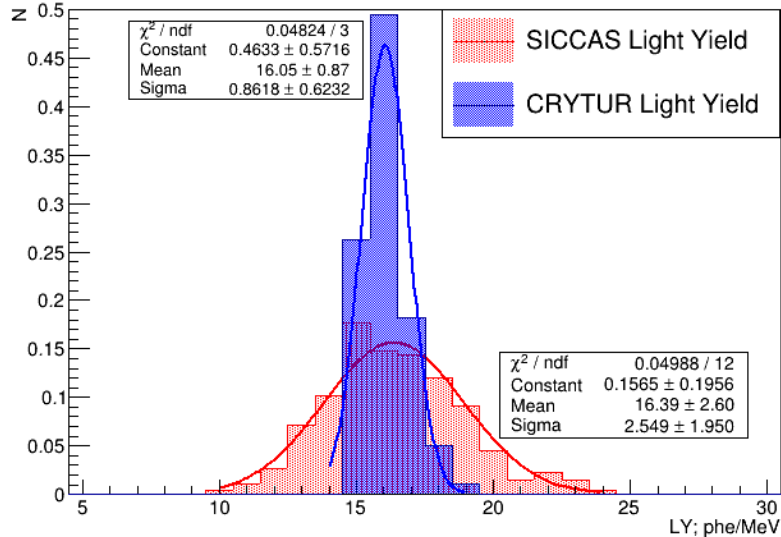
Crystal status and stacking strategy

V. Berdnikov (CUA)



NPS Collaboration meeting Feb 1 2021

Status of PWO crystals production and delivery

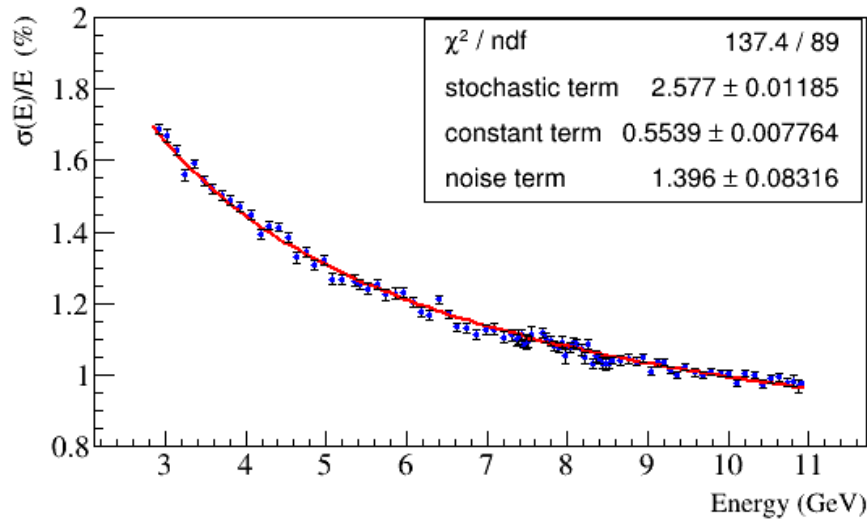


CRYTUR: 100(Universities)+717(JLab) = **827** crystals
 End of August 2021 **1150**
 End of 2021 **1300 (*)**

All crystals are high quality and uniform

SICCAS: 460(*)

300 Preselected good crystals (140 installed in CCAL)
 160 Replacement crystals



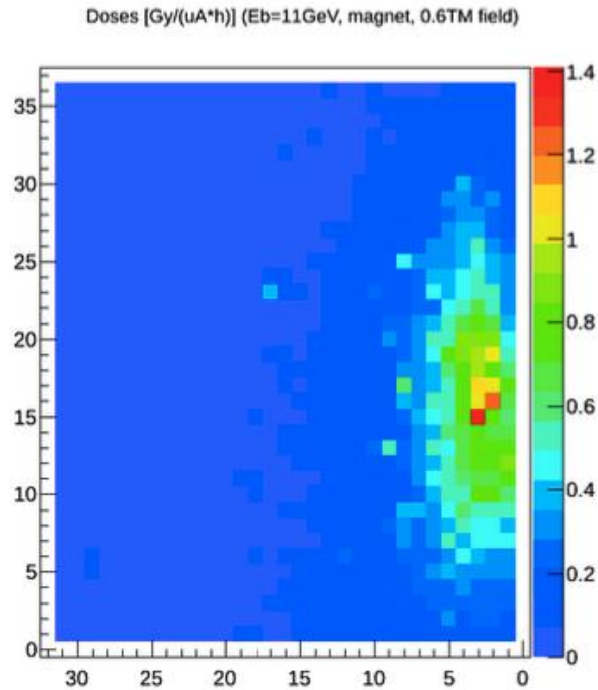
Preselected SICCAS crystals showed good performance due 12x12 prototype beam tests.

CRYTUR crystals preferably option:

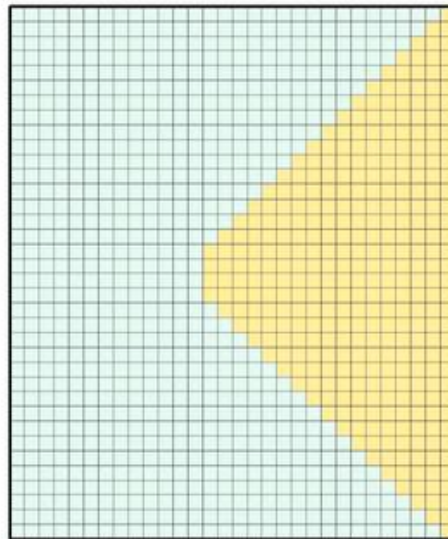
- better radiation resistance compare to SICCAS
- good LY uniformity => better constant term

NPS Colab meeting 2019, first time stacking options discussion

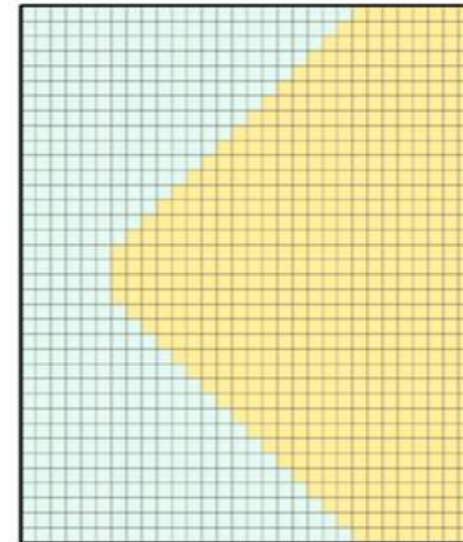
Possible stacking options according to simulated dose rate



340 CRYTUR + 740 SICCAS



592 CRYTUR + 488 SICCAS



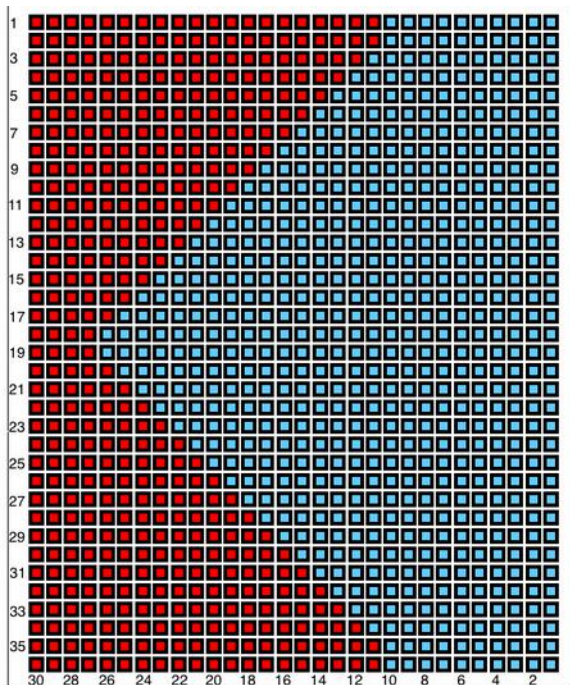
Figures by
Hamlet
and
Vardan

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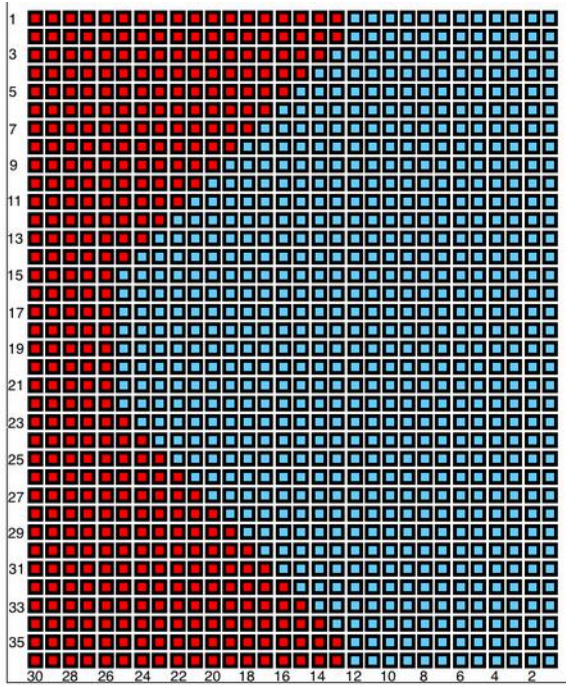


**Simulated radiation dose is big for ~10 columns
from the beam line
(only CRYTUR will work fine)**

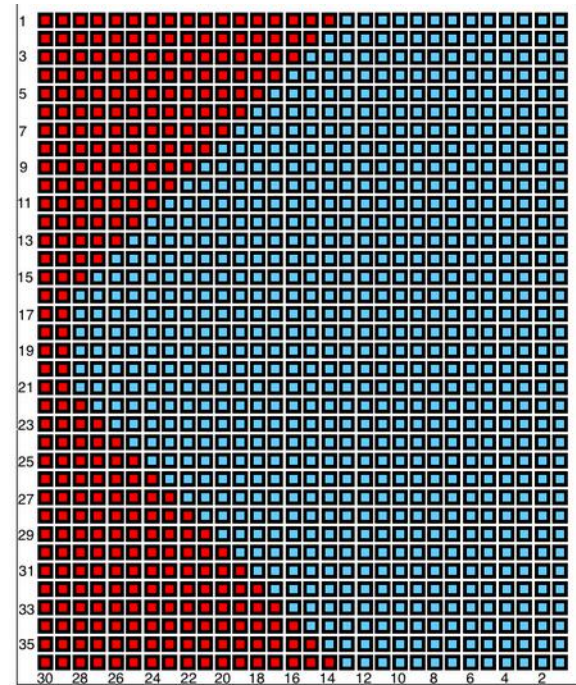
448+632



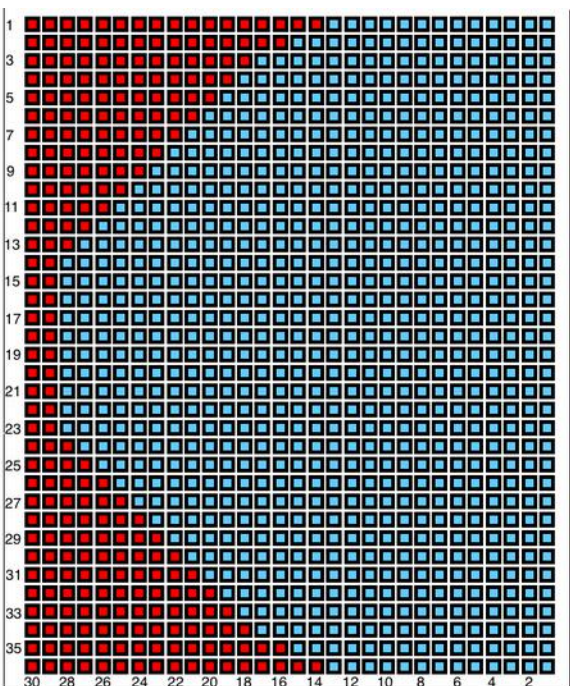
388+692



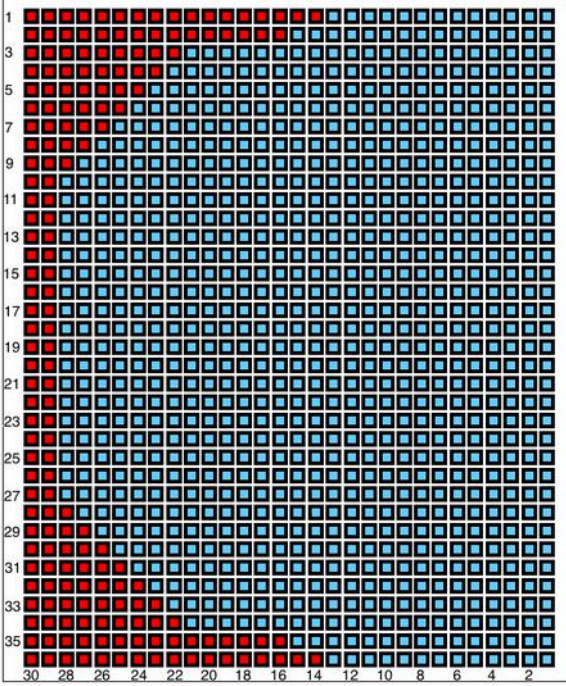
312+768



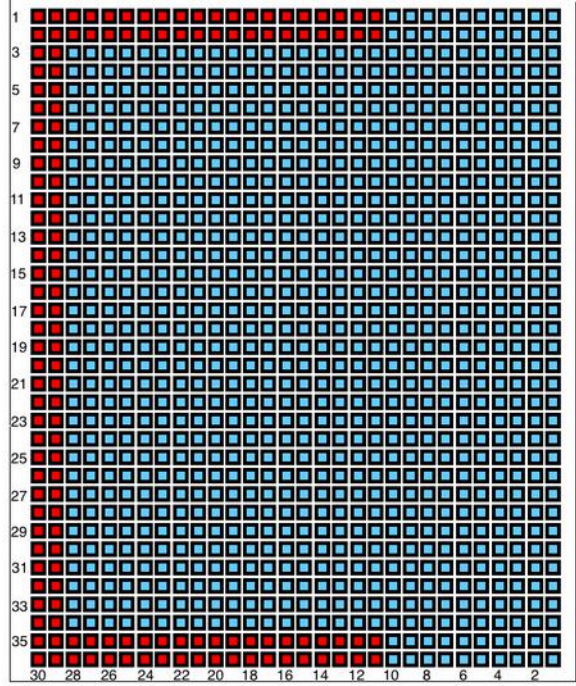
260+820



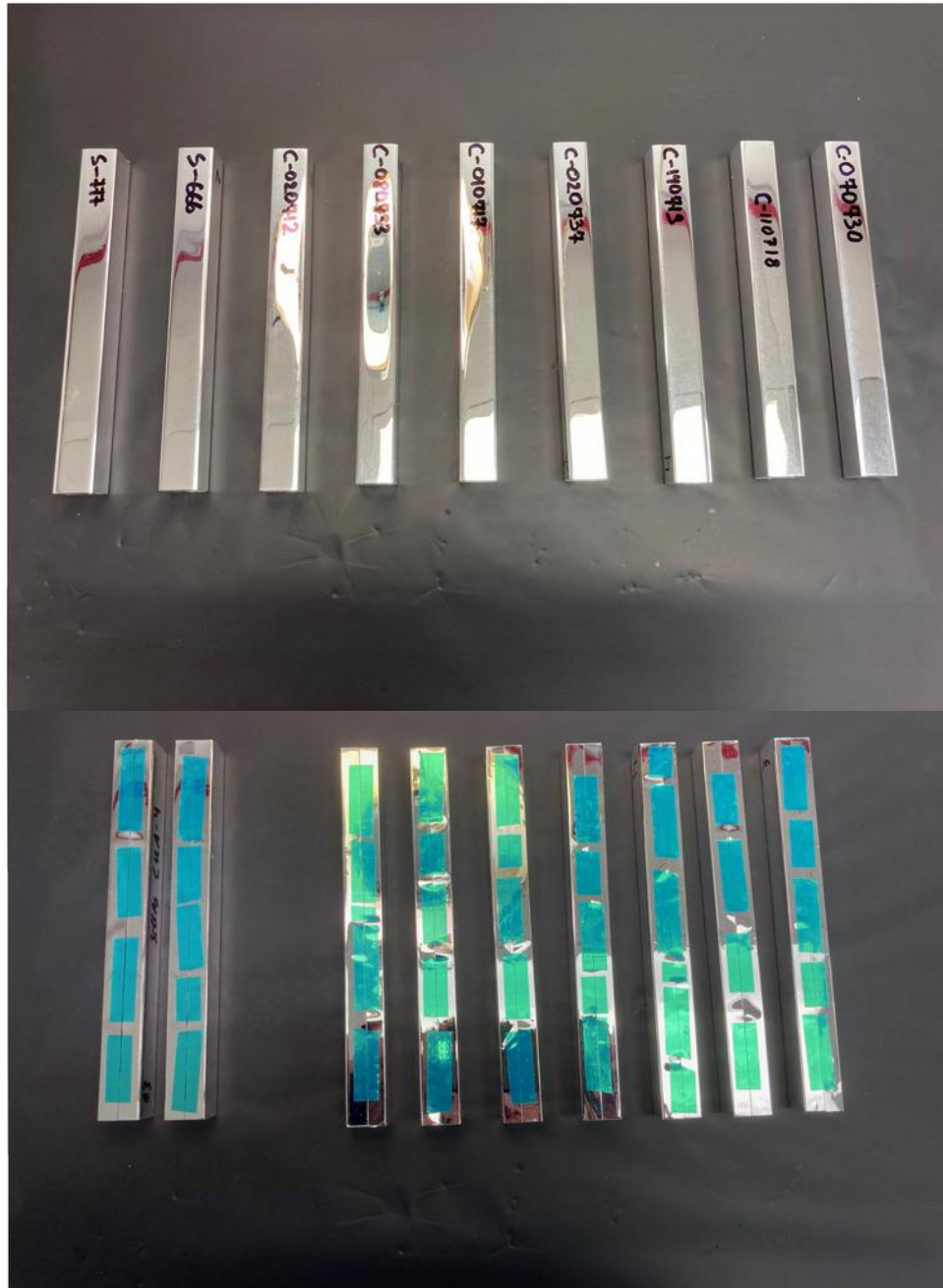
204+876



144+936



Discussion topics:



- How many CRYTUR crystals will be used?
- Man power, who will be involved in the stacking?
- What the best stacking strategy, approximate rate per day?
- What the best wrapping method? Do we need to have additional Tedlar wrapping?
- Do we need cleanroom operations for crystal cleaning and wrapping?
- How COVID restrictions will affect the work flow?
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