

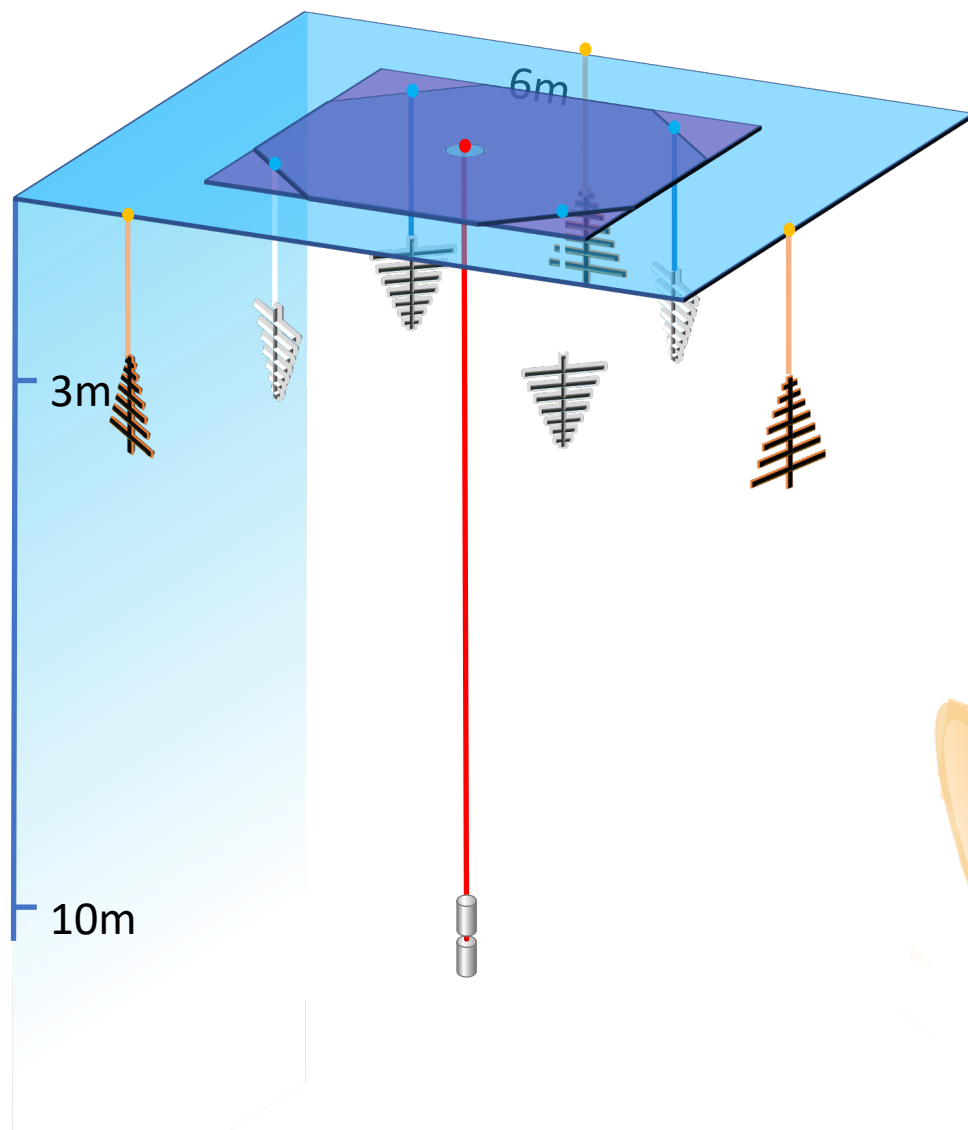
An improved trigger for Askaryan neutrino detectors

Christian Glaser and Steven Barwick

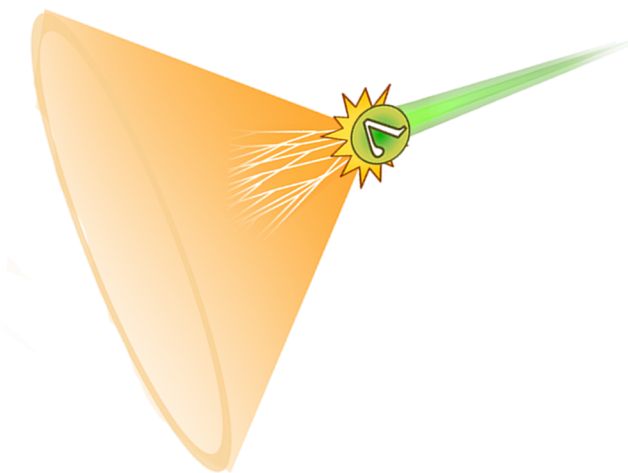


UPPSALA
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Detection of high-energy neutrinos (10^{17} - 10^{19} eV)

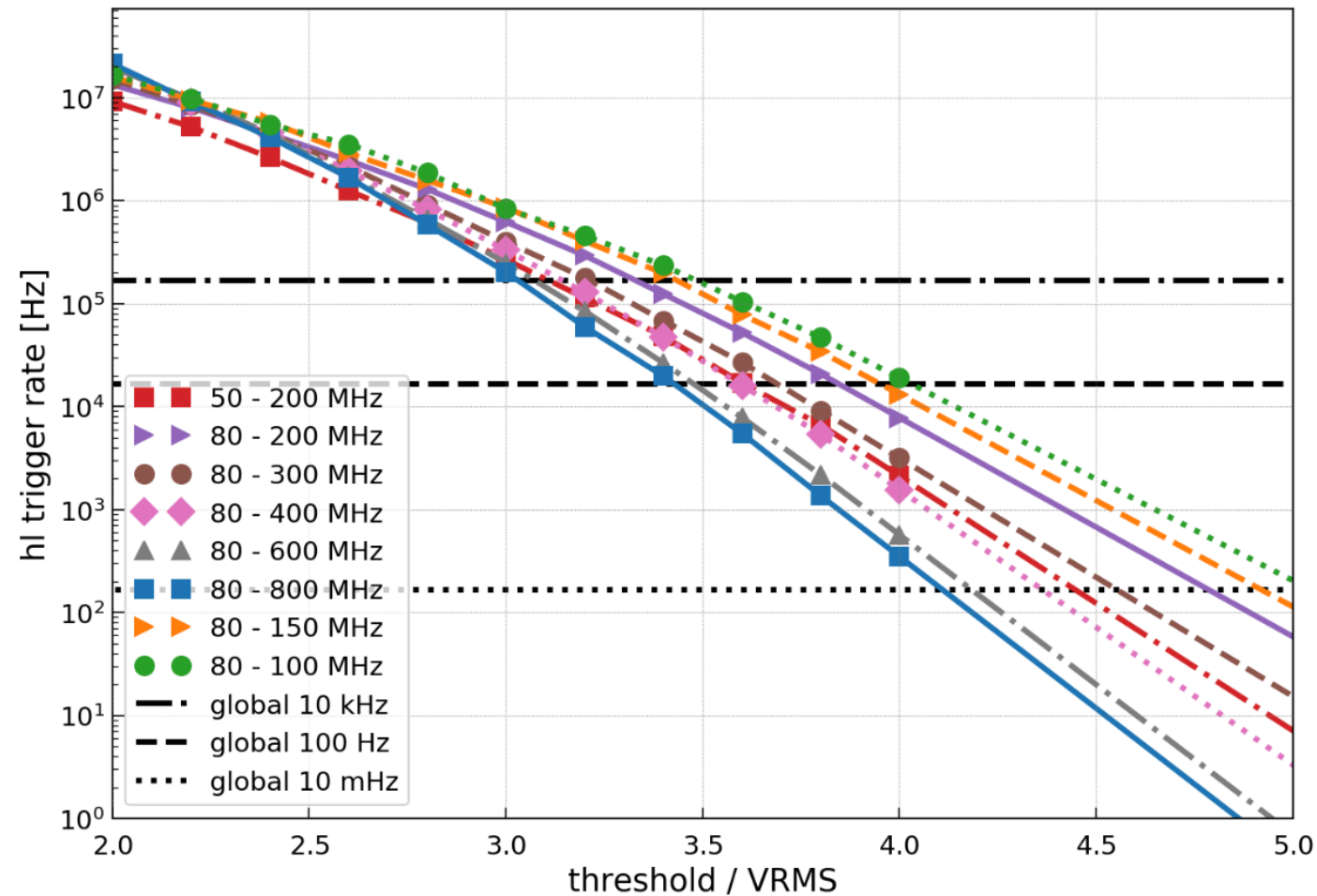


- low flux + small interaction cross section
→ low statistics
- optimize sensitivity of each detector station



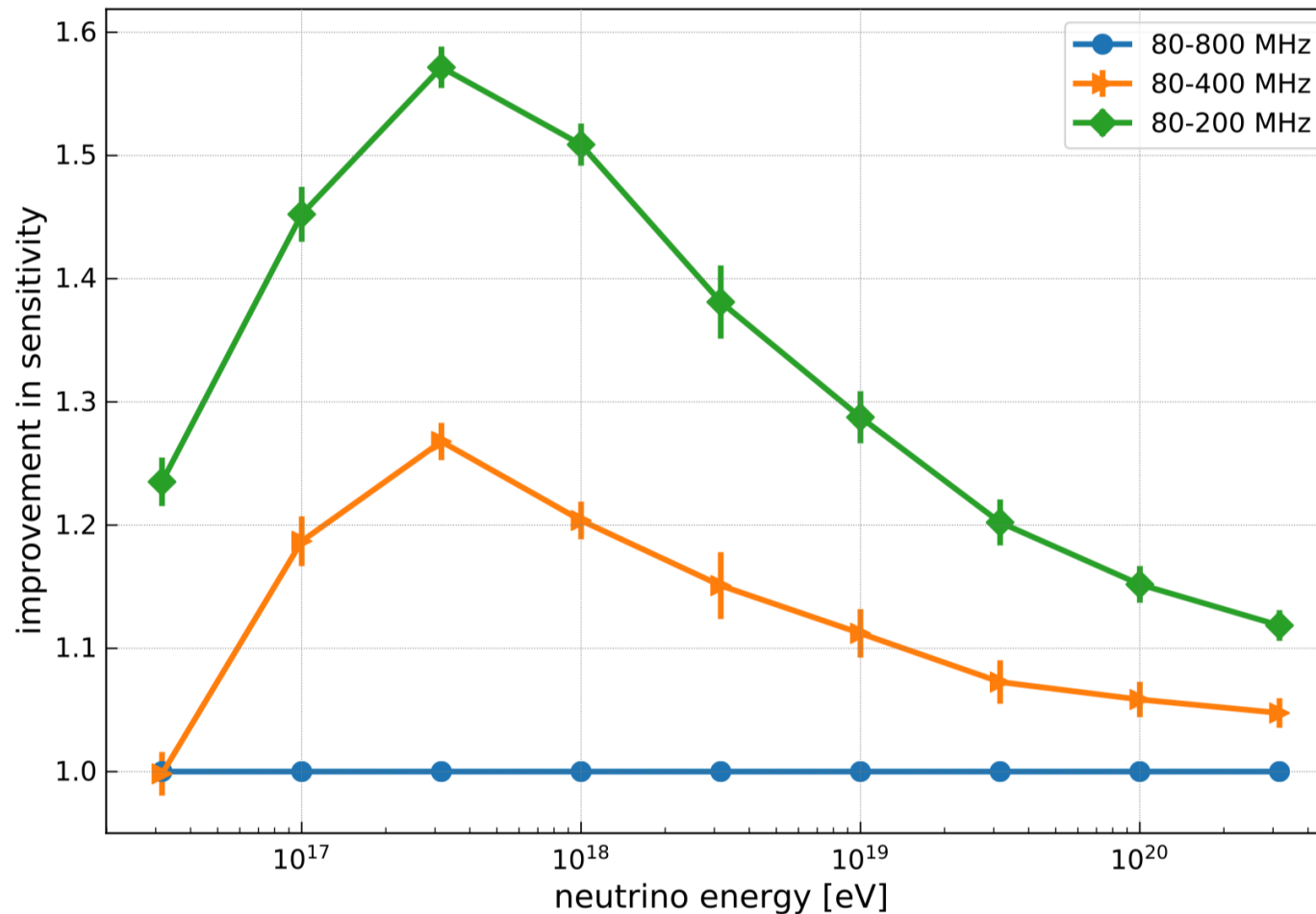
Method to compare different trigger schemes

- Adjust trigger thresholds to yield the same thermal noise trigger rate



Sensitivity Improvement by Bandwidth Optimization

- 50% improvement in sensitivity by reducing bandwidth from 80-800 MHz to 80-150 MHz



→ more information
Glaser and Barwick,
JINST 16 T05001 (2021)