



# Neutrinos from Superradiant Primordial Black Holes



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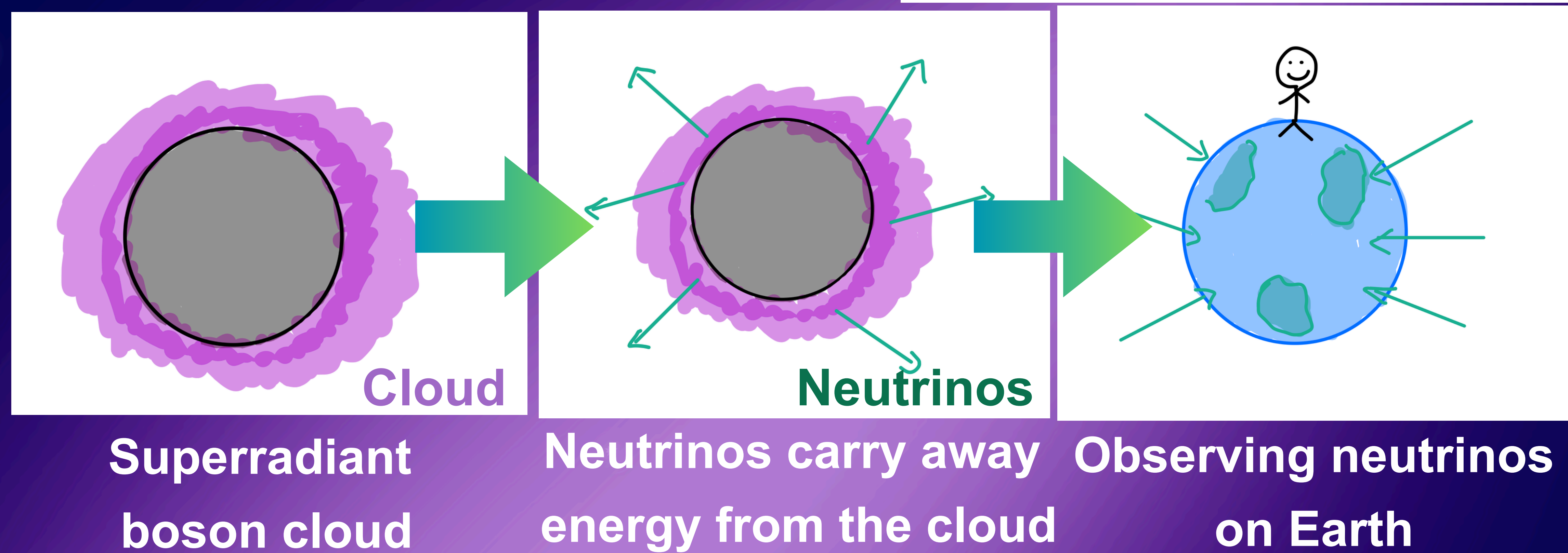
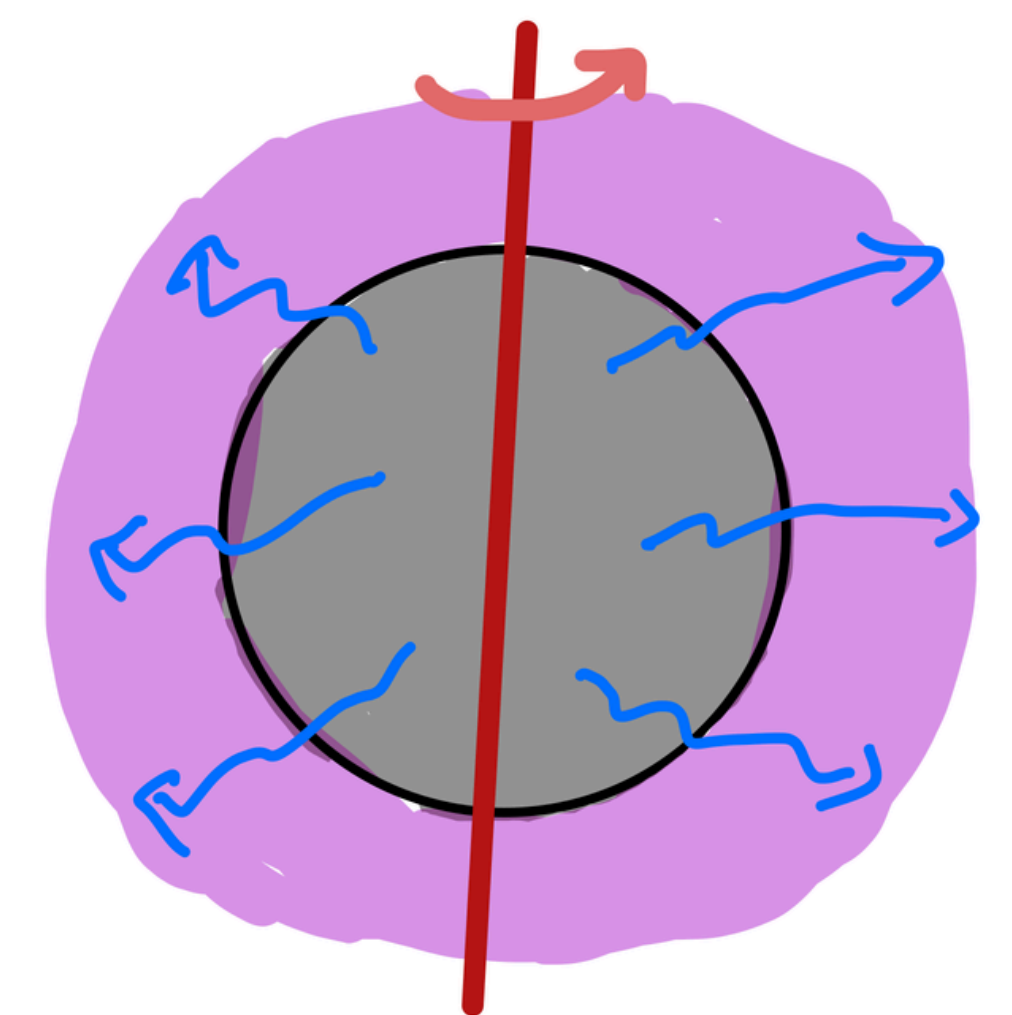
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## Take-home messages:

1. **Quenched superradiance** can produce a small, clean **neutrino flux** in the **MeV to GeV energy range**.
2. Existing low-energy data already exclude part of **the parameter space**.

## Superradiance and Neutrino Production

Superradiance (Zel'dovich 1971, ...) extracts rotational energy from rotating black holes.



Super-Kamiokande detector can observe neutrinos in the energy range of MeV to GeV.

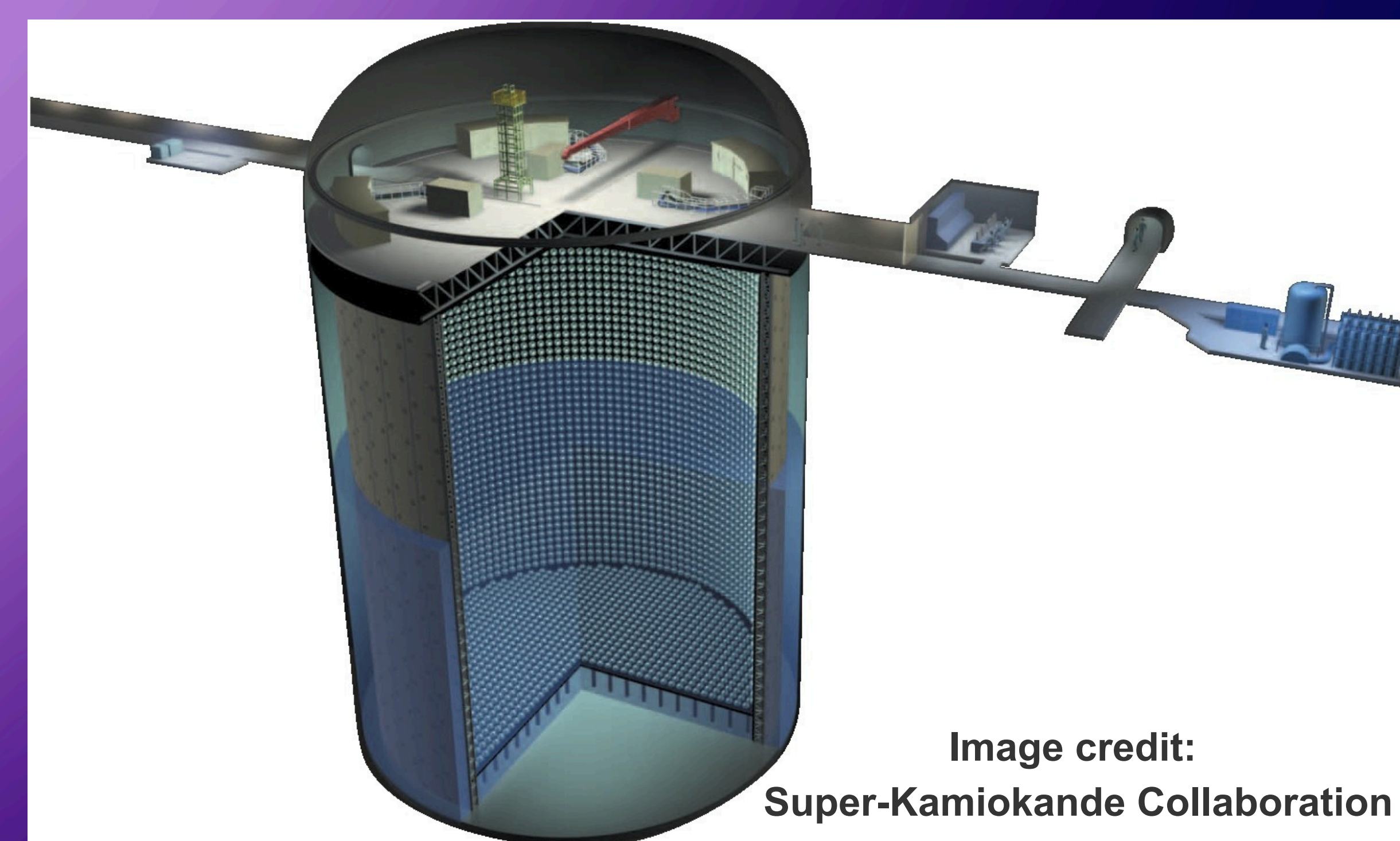
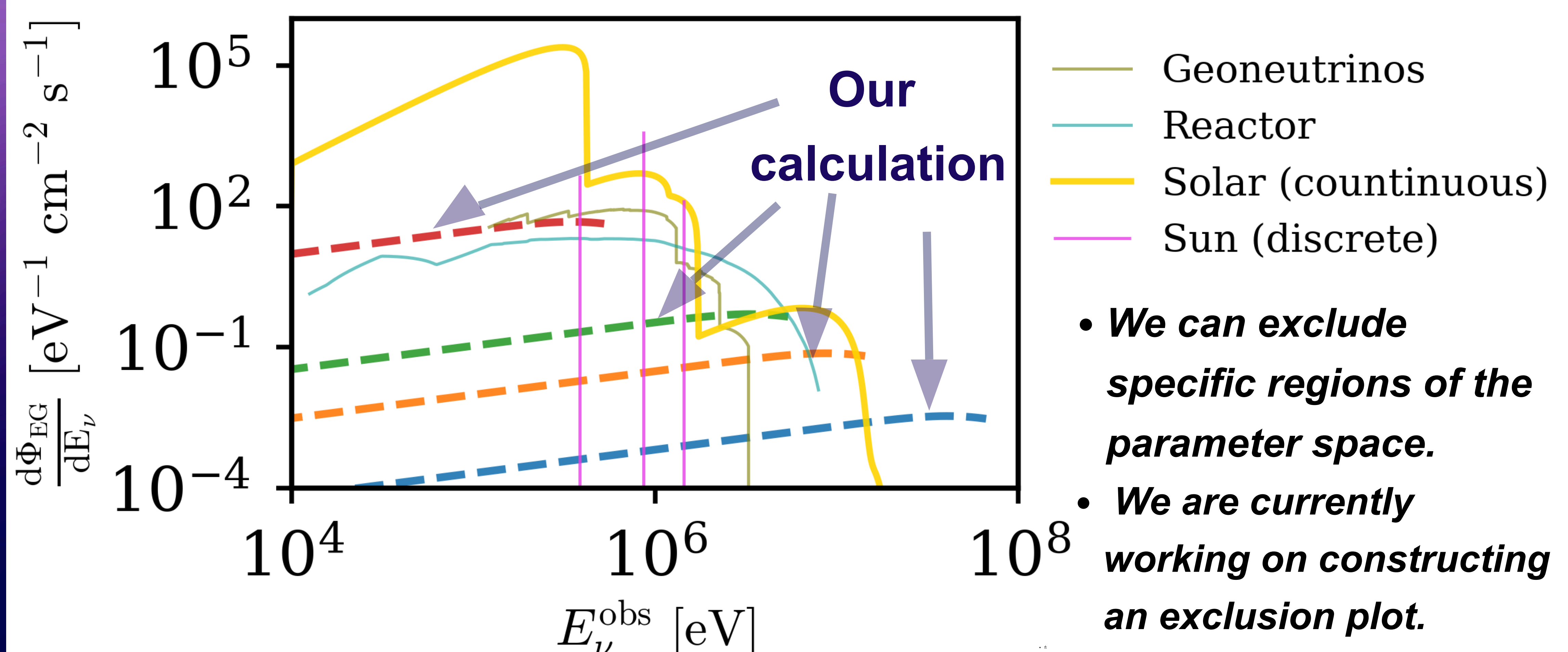


Image credit: Super-Kamiokande Collaboration

## Observable Neutrino Spectrum PBH Signals vs. Backgrounds



## Results and Future Prospects