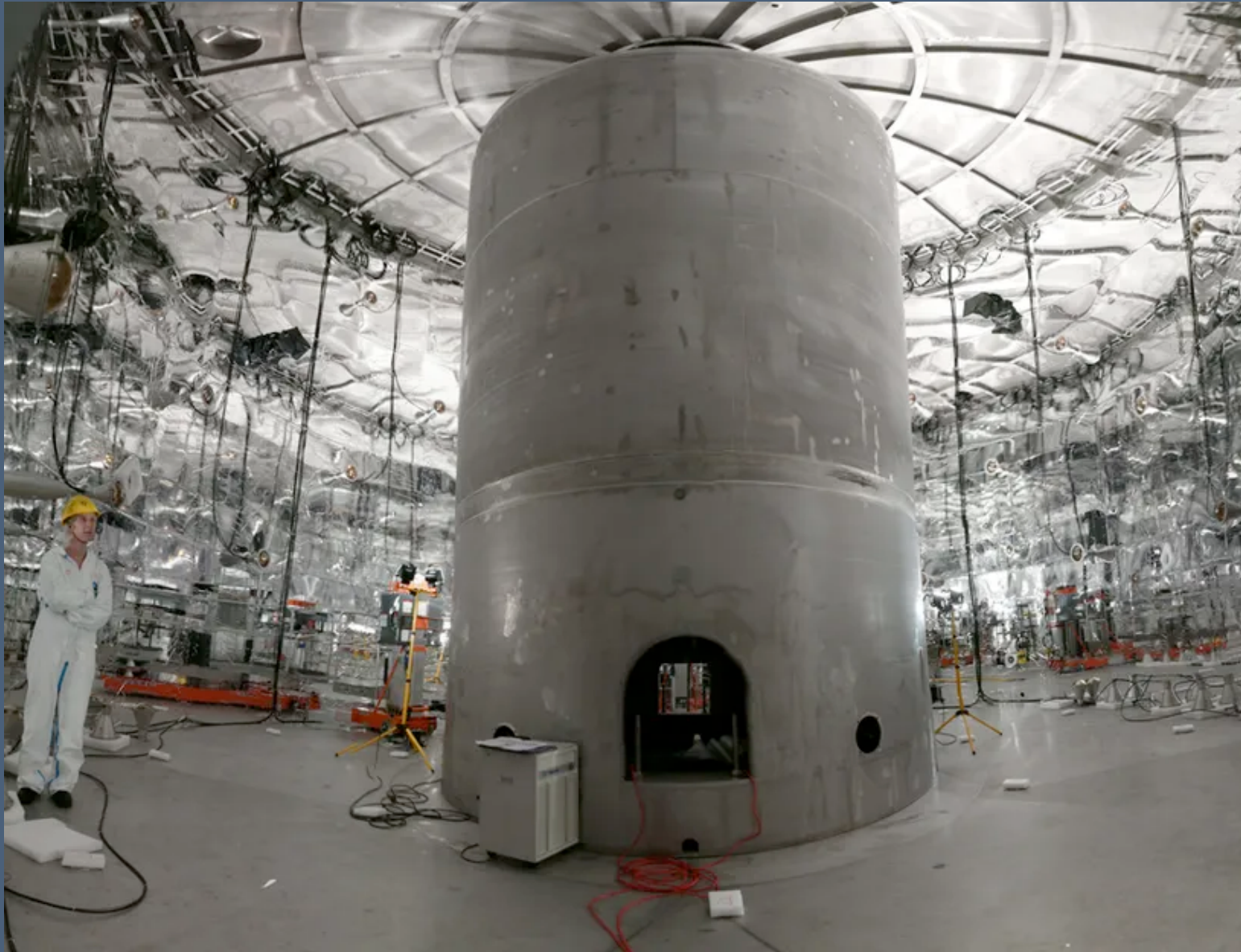


Neutrino Physics: Theory and Experiments

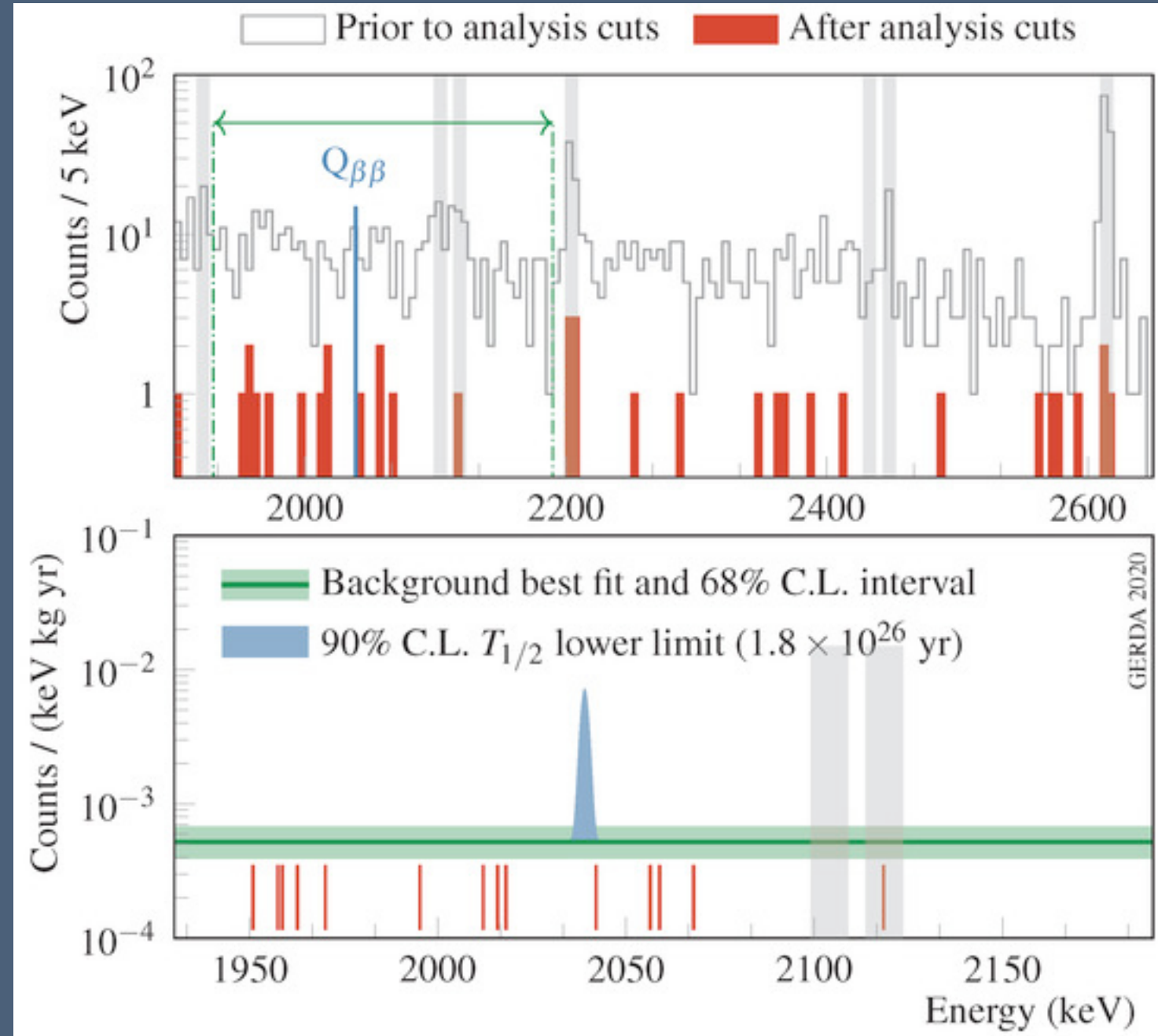
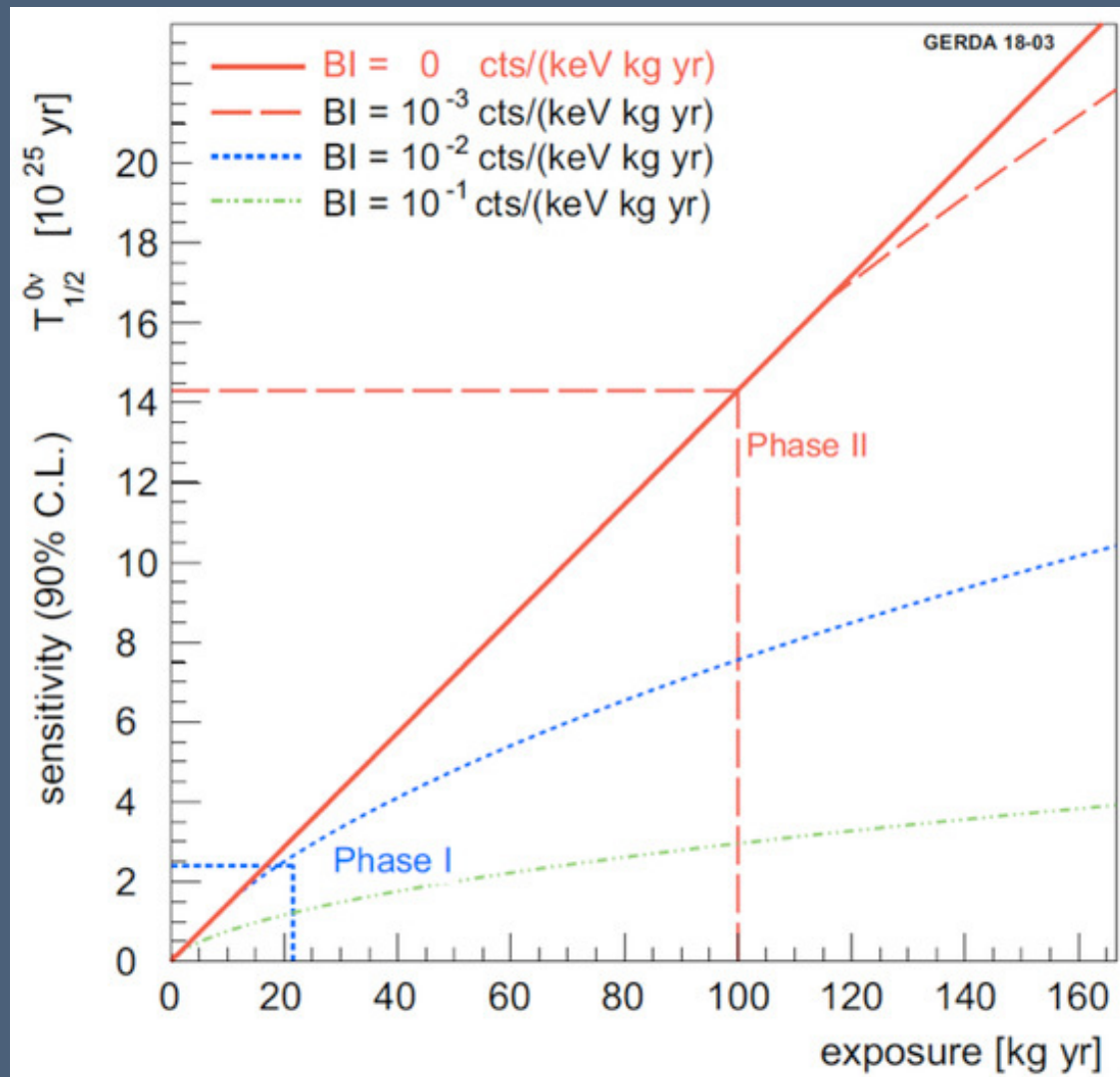
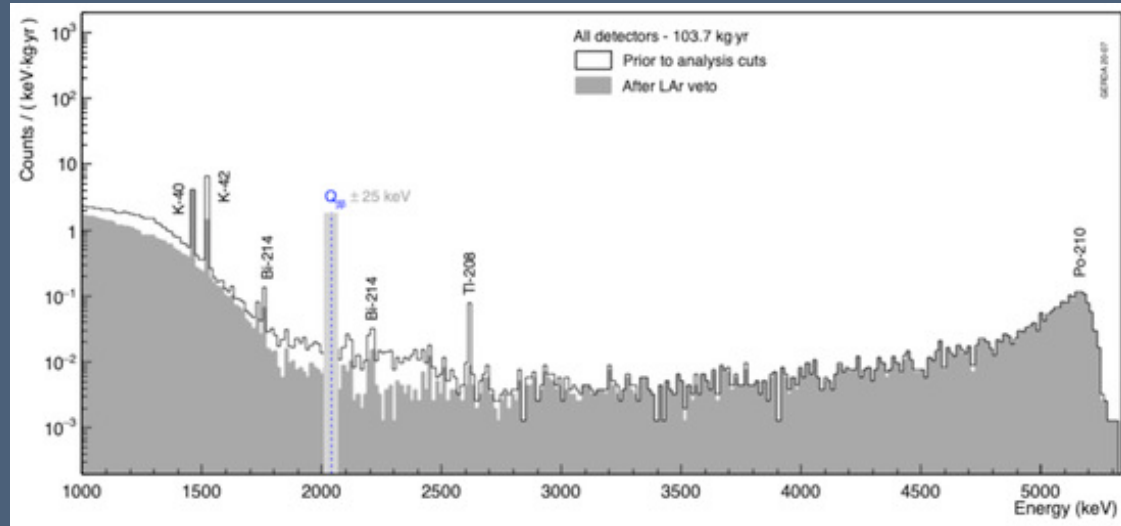
Lecture 10: Neutrinoless double beta decay

Christian Buck, June 18th, 2025

Gerda experiment at Gran Sasso



Gerda spectrum



Isotope candidates

Isotope	Q-value (MeV)	Natural abundance	Detector material	Experiments
^{76}Ge	2.039	7.8%	Semi conductor	Legend
^{136}Xe	2.458	8.9%	Noble gas, liquid scint.	Kamland-Zen, nEXO
^{130}Te	2.527	34.1%	Crystal, liquid scint.	CUORE, SNO+
^{100}Mo	3.034	9.8%	Crystal	CUPID, Amore
^{150}Nd	3.367	5.6	Crystal	NEMO