Giant Radio Array for Neutrino Detection

or ... GRAND

Excerpts from the White Paper in preparation ...

Who is GRAND?

Author list

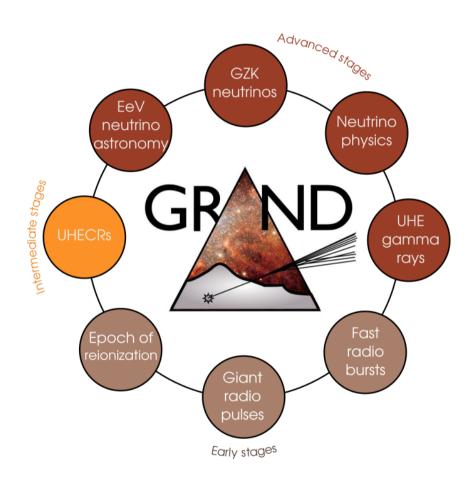
Jaime Alvarez-Muñiz¹, Rafael Alves Batista^{2,3}, Julien Bolmont⁴, Mauricio Bustamante^{5,6,7,†}, Washington Carvalho Jr.⁸, Didier Charrier⁹, Isma@ Cognard^{10,11}, Valentin Decoene¹², Peter B. Denton⁵, Sijbrand De Jong^{13,14}, Krijn D. De Vries¹⁵, Ralph Engel¹⁶, Ke Fang^{17,18}, Chad Finley^{19,20}, QuanBu Gou²¹, Junhua Gu²², Claire Guepin¹², Hongbo Hu²¹, Yan Huang²², Kumiko Kotera^{12,23}, Sandra Le Coz²², Jean-Philippe Lenain⁴, Guoliang Lu²⁴, Olivier Martineau-Huynh^{4,22}, Miguel Mostafa^{25,26,27}, Fabrice Mottez²⁸, Kohta Murase^{25,26,27}, Valentin Niess²⁹, Foteini Oikonomou^{30,25,26,27}, Tanguy Pierog¹⁶, Xiangli Qian³¹, Bo Qin²², Duan Ran²², Nicolas Renault-Tinacci¹², Frank G. Schr@der³², Fabian Sch@seler³³, Cyril Tasse³⁴, Charles Timmermans^{13,14}, Matjas Tueros³⁵, Xiangping Wu^{36,22}, Philippe Zarka³⁷, Andreas Zech²⁸, Bing Theodore Zhang^{38,39}, Jianli Zhang²², Yi Zhang²¹, Qian Zheng^{40,21}, Anne Zilles¹²

O(50) people mainly from cosmic rays (AUGER, KASCADE, *radio*), astroneutrinos (Ice Cube, *radio*) and radio astronomy (21 CMA, ...).

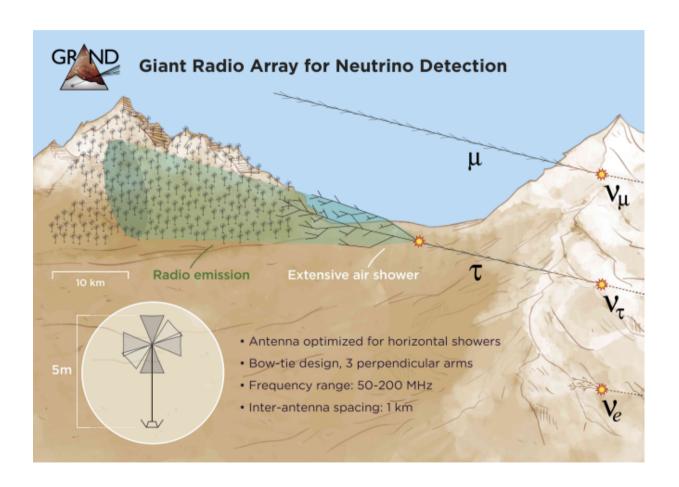
Leitmotiv: let us build something O(10) times better than existing/foreseen UHE CR/neutrinos upgrades *using MHz radio antennas*.

Consequence: it must be ... (very) GRAND, i. e. 200,000 km 2 which is ~1 UK, or 1/3 of France.

GRAND science case



v_{τ} detection scheme



Timeline

