

NOEMA: a Powerful mmArray in the Northern Hemisphere

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NOEMA (Northern Extended Millimeter Array) is –after ALMA– the most ambitious project in the field of mm astronomy world-wide. It will decouple the capabilities of the IRAM Plateau de Bure interferometer by: adding 6 new 15-m antennas to the array, to reach a total of 12 dishes; equipping all antennas with state-of-the-art wide-band new receivers; installing an FPGA-based new-generation, extremely flexible correlator system; and extending the baselines from 800 m to 1.6 km.

NOEMA will have a major science impact in many astronomical fields, including studies of solar system, star formation, interstellar medium, or high-*z* galaxies. It will nicely complement ALMA by providing full-sky coverage with comparable sensitivities in the critically important mm domain. NOEMA will also provide unique features, in particular for spectral surveys and astrochemical studies.

The construction of NOEMA is now well advanced, with the two first antennas (the 7th and 8th in the array) completed, and the two next ones under construction. The deployment of the new receivers on all antennas has started, and the installation of the new correlator is scheduled for early 2017.

This talk will summarize the scientific and technical aspects of the NOEMA array, give an up-to-date status of its construction timeline, and present the long-term perspectives for future instrumental developments. A special emphasis will be given to the receiver systems, which include 4 bands covering the 70-370 GHz atmospheric windows, all of them with 2 polarizations and 2SB (2x8 GHz) mixers (i.e. 32 GHz per band).