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Radio Galaxy Zoo: EMU - paving the way for EMU cataloguing using AI and citizen science

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The Evolutionary Map of the Universe (EMU) survey is an ongoing large-scale radio continuum survey conducted by ASKAP, which will discover around 40 million radio sources. While conventional source-finding algorithms could handle ~90% of source cataloguing in EMU, there might be 4 million sources with well-extended and complex morphological structures awaited to be identified through visual inspection or reliable machine-learning methods. In this talk, I will introduce the Radio Galaxy Zoo: EMU (RGZ-EMU) citizen science project, explaining how the combined usage of citizen science and machine learning helps to characterise the observed radio emission of these complex sources and associate them with belonging host galaxies we use multi-wavelength observations of the same sky area. This especially applies to our radio source tag system generated via natural language processing methods and sample selection processes with the aid of image complexity measurement algorithms. International team efforts in outreach and education will also be mentioned.

Presenter: TANG, Hongming

Session Classification: Past and future multiwavelength all-sky surveys