

Find elusive particles from your phone with Oxford's new neutrino viewer app

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A 3-D platform, VENu works with Google Cardboard and is designed to exhibit both virtual and augmented reality features. The personal virtual reality viewer allows users to understand the many complexities and intricacies of the Microboone experiment and to learn more about neutrinos. Credit: Oxford University

Not so long ago, observing fundamental particles was reserved for scientists with complex equipment. Now technological progress means that anyone can explore the world of particles from their phone. VENu is a new smartphone app, designed by Oxford University scientists, to support would-be physicists to see neutrino activity and to even try and catch them themselves.

The app is made up of data gathered by scientists from the Microboone experiment, launched to detect and understand neutrinos, which are subatomic, almost weightless particles that only very rarely interact. They are notoriously difficult to capture but state-of-the-art detectors, like Microboone, in the USA, are now recording neutrino interactions. The footage captured enables scientists to understand more of this elusive and puzzling particle.

Neutrinos are considered a fundamental building block of matter, and are fascinating to scientists. They carry no electric charge and can travel through the universe almost entirely unaffected by natural forces, and are therefore very difficult to detect.

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The platform includes game features that provide users with brain teasing challenges, putting them in the mind-set of professional particle physicists. These include simulating neutrino interactions against a cosmic ray background, similar to the way neutrino physicists run their analysis.

The VENu App will launch on Monday 30 January 2017 and is free to

download from Apple store and Google Android Marketplace.

More information: venu.physics.ox.ac.uk/

Provided by University of Oxford

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