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PLANETARY ATMOSPHERES IN A TEST TUBE

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Atmosphere in a test Tube is a long-term project aimed at producing a database of spectra of simulated extrasolar planet atmospheres using real mixture of gases and dust particles. The spectra will be obtained in laboratory on a huge wavelength range (from soft X to FIR) exploiting synchrotron radiation available at the DAFNE-L facility of the “Laboratori Nazionali di Frascati” of the INFN. The gas mixture will be put inside an environmental simulator where it will be possible to modify thermodynamical and chemical parameter in a controlled way. We describe the whole project and its elements outlining also a proposed experimental setup for a pilot experiment on terrestrial planet atmospheres.