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Presently, I am doing a project in particle physics under **Professor Pradeep Sarin** of the Department of Physics, IIT Bombay. The project work has two phases. Phase-1(October-November, 2017) involved reading work so as to understand the **basics of particle physics**, while I am working on phase-2 of the project wherein I am making a **muon detector**, known as ‘spark chamber’ to capture muons which reach the Earth at an average flux of 10 per decimetre square per second as a result of secondary particle production and corresponding decay when cosmic rays enter the Earth's atmosphere and strike the atoms. It then produces pions which decay into muons. The rate of muons reaching the surface of the earth decreases with the increase in the energy of the muons and in turn the cosmic rays. We are working on making the particle detectors in the lab which detect the lower energy muons and then measure their energy in the laboratory. Simultaneously, we are studying some theory related to the Spark Chamber.

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