Abstract Submitted
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Examinaton of the February 2011 Forbush Decrease (Muon) by Project GRAND MOLLY BALL, Monmouth College, PROJECT GRAND TEAM — Project GRAND is a cosmic ray experiment located north of the University of Notre Dame. It consists of 64 huts of proportional wire chambers that make up a 100 m x 100 m detector array. These detectors identify muons produced when cosmic rays reach the Earth's upper atmosphere. The muon counting rates remain fairly constant, but this is not the case when there are solar flares and coronal mass ejections. An interesting occurrence called a Forbush Decrease was seen in February 2011 in data from the Oulu Neutron Monitor, a lower energy experiment than GRAND. This was caused by a cloud of charged particles and the magnetic fields moving toward Earth which deflect the path of charged cosmic rays that come from outside our solar system and bombard the Earth's upper atmosphere. GRAND's data was examined and a similar decrease at the same time as Oulu was found along with additional phenomenon not seen by Oulu, which usually sees more structure than GRAND due to its ability to detect lower energy particles more easily affected by solar activity. Several steps, such as looking at pressure correction and good hut corrections, have been taken to correct GRAND's data for non-physics effects. An upper air temperature correction remains to be done as well.

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