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Applications of passivated silicon detectors RICHARD KYUNG, Seoul National University-CLC, CHAN HO PARK, Lawrenceville School — We can postulate that dark matter are WIMPS, more specifically, Majorana particles called neutralinos floating through space. Upon neutralino-neutralino annihilation, they create a greater burst of other particles into space: these being all kinds of particles including anti-deuterons which are the indications of the existence of dark matter. For the study of the applications of passivated silicon detectors, this paper shows following procedures in two categories. Painting on little pieces of silicon (Polyimid and Boxcar Red) :Took clean paint brush and painted on Polyimid and Boxcar red samples onto little pieces of sample silicon and dried for a certain number of hours in different conditions. Cooling test : usually done in 7 cycles, cool until usually -35 degrees or -40 degrees Celsius with thermoelectric cooler, dry out, evapate the moisture in the fume hood, take pictures with the microscope and check for irregularities every 1, 4 and 7 times. The results show us how the passivated silicon will act in the real experiment–the vacuum chamber and x-rays (from the radioactive source), and different atmospheric pressures simulate what it will be like in space.

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