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Measurement of D+D Neutrons at 5- and 7-MEV Deuteron Beam Energy SUSHIL DHAKAL, THOMAS MASSEY, CARL BRUNE, Ohio University — The D+D reaction can produce neutrons through D(d,n)^{3}He as well as D(d,np)D and D(d,np)np reactions. The first reaction gives neutrons of single energy at a fixed angle for constant beam energy while the latter two produce low energy continuous spectrum neutrons. These neutrons from the first two reactions have been measured at different angles for deuteron beam energies of 5- and 7-MeV using a deuterium gas cell target. The D(d,n)^{3}He neutrons were measured from 0 to 135 degrees of detection angles and those from D(d,np)D were measured from 0 to 45 degrees. The time of flight technique was used with a 6-meter flight path to find the energy of the neutrons detected by three NE213 detectors. This cross section measurement was done using the 4.5-MV tandem accelerator at Edwards Accelerator Laboratory at Ohio University.

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