

Study of the dependence of polarization properties of aggregates on porosity

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We have studied the polarization properties of four different types of dust aggregates BCCA, BA, BAM1 & BAM2 with a wide variation of porosity. The porosity for these aggregates is given by ~0.98 for BCCA, ~0.86 for BA, ~0.74 for BAM1, and ~0.64 for BAM2. The main objective of this study is to check the correlation between polarization and porosity at different scattering angles. It has been already studied by some investigators that the polarization maximum (Pmax) is correlated with the porosity of aggregates. In this work, we have found that the inverse correlation between polarization and porosity does not hold good at forward scattering region due to resonance arises from the low porosity aggregates. A set of conclusions based on our work will be made in the presentation.