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Dusty Modes in Nano-technological Plasmas STEVEN BEKHOR, Michigan Plasma Physics Research Institute — An updated set of dispersion relations for dust acoustic, ion-acoustic and magneto-acoustic waves as well as the linear instabilities and dust charge relaxation processes associated with certain electrostatic and electromagnetic waves is presented using typical parameters for nano-technological plasmas based on a multi-fluid treatment. In the future, these may be used in an assessment of the optimal parameters for dynamical self-organization in multi-component plasmas used in the plasma enhanced chemical vapor deposition (PECVD) of self-assembled vertically aligned nanostructures.

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