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Dynamic mean-field theory of the ionic Hubbard model JI-WOO LEE, Myongji University, Yong-In, South Korea, GUN SANG JEON, Seoul National University, Seoul, South Korea — We study the ionic Hubbard model in the infinite dimensions in the framework of dynamical mean-field theory. Exact diagonalization is used to obtain the impurity Green's function to satisfy the self-consistant equation. We obtain a phase diagram in the parameter space of local ionic potential strength, Δ and local repulsive energy, U exhibiting three phases: Mott insulator, metal, band insulator. Analyzing the spectral density, we compare our results with those of iterative perturbation theory and quantum Monte Carlo study in two dimensions.

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