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**On Critical Points and Zeros
of Certain Discrete Potentials**

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Abstract. A variety of scenarios in electrostatics can be modeled using functions of the form $f(z) = \sum_{k=1}^{\infty} a_k/(z - z_k)$. In these models, zeros of the function correspond to equilibrium points in the electrostatic field. We strengthen some previous existence results for zeros of functions of the form f . Also, similar techniques are applied for proving the existence of critical points of potentials in n -dimensional real space, $n \geq 3$.

Keywords. Critical points, logarithmic potentials, zeros of meromorphic functions.

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