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In this talk, we consider a one-dimensional Poisson-Nernst-Planck(PNP) model for ionic flow through ion channels for two ion species with permanent charges. The PNP model problem can be viewed as a boundary value problem of a singularly perturbed system and existence of solutions is reduced to that of an algebraic system. Multiple solutions are shown to exist, under some conditions, through bifurcation analysis and numerical computations are consistent with our analysis. Existence of multiple solutions in such or similar models might be relevant to some complex behaviors of ion channels. (Received February 09, 2012)