

## ABSTRACTS

**17:** R. Kovács, M. Valiskó, D. Boda; Monte Carlo simulation of the electrical properties of electrolytes adsorbed in charged slit-systems. *Cond. Matt. Phys.*, 15 (2012) 23803:1-11

We study the adsorption of primitive model electrolytes into a layered slit system using grand canonical Monte Carlo simulations. The slit system contains a series of charged membranes. The ions are forbidden from the membranes, while they are allowed to be adsorbed into the slits between the membranes. We focus on the electrical properties of the slit system. We show concentration, charge, electric field, and electrical potential profiles. We show that the potential difference between the slit system and the bulk phase is mainly due to the double layers formed at the boundaries of the slit system, but polarization of external slits also contributes to the potential drop. We demonstrate that the electrical work necessary to bring an ion into the slit system can be studied only if we simulate the slit together with the bulk phases in one single simulation cell.