

Chapter IV

TRANSFERENCE NUMBERS

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I INTRODUCTION AND BASIC THEORY

The electrical conductance of an electrolyte solution is a measure of the extent to which *all* the ions present in the solution move in the direction of an applied electric field and so carry the resulting electric current. The relative extent to which a given type of ion *i* participates in this process, and thus the proportion of the current it carries, is expressed by its ionic or electric transport number t_i . Unfortunately, in the majority of cases (whenever, in fact, there are complex ions present) we simply cannot measure t_i . What

we can and do a of current, not R . This we ca are now to be clarify the pict numbers at all The equations oxalic acid (H_2 definition on p following disc

Conductance

Let us consi charge number number $|z_i|$ (e. M_i mole liter

(In pure SI te influence of a the direction tional to the f

where u_i is th conductance

where F is th Consider a and perpendi the plane all A (square cer charge of $|z_i|$ across the pl

The current conductivity

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