Study for Effect of a Higher-order Field on Ionic Transport across a Membrane (Ⅱ)

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The higher-order field for membrane transport is consider as the field which is not concerning with the driving force in the membrane transport such as concentration, hydraulic pressure or electric field. The following cases are considered to be higher-order filed.

1) Electric field paralled to the amphoteric membrane surface
2) Electromagnetic field
3) Ultrasonic wave
4) Low-frequency wave
5) Laser
6) Jet flow
7) Reaction field by micro-organism

In this research, the effect of low frequency wave was examined. Electrolytes of permeation are sodium chloride and chlorination potassium. The permeation of the electrolyte is tested by using commercial ion exchange membrane under the vibration of this moment. It can be expected to make an influence on surface side of a membrane clear. The transport of electrolyte become increase if the deionized water side is stirred.

The delay of the time occurred in the low frequency vibration stirring permeation phenomenon.

The transport phenomenon are affected by species of the electrolyte