



Bob Eisenberg <bob.eisenberg@gmail.com>

References

Bob Eisenberg <beisenbe@rush.edu>**Mon, Jun 28, 2010 at 7:17 AM**

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To: Dezso Boda <dezsoboda@gmail.com>

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I agree entirely.

Slope conductance is more dynamic than occupancy or binding.

there are a series of steps from binding to full current voltage time relations

- a) binding
- b) conductance near equilibrium of voltage and concentration
- c) conductance near equilibrium of voltage but in gradient of concentrations (I suspect this is enough for most of single channel OPEN channel IV curves, in the sense that the spatial distribution of potential inside the channel is not far from the spatial distribution of potential inside the channel even if the bath potentials are far from equilibrium. this is a consequence of the buffering of the channel contents I believe by the fixed charge of the channel wall.)
- d) conductance in gradient of potential and concentration
- e) current vs. time

Because most of the interesting properties of electrodiffusion systems occur in conditions d) and e) (i.e., ALL the properties of transistors), it is CRUCIAL that we not adopt language or an approach that does not apply to such interesting situations.

MC is wonderful for what it does.

Conductance calculations extend that an important step.

Conductance in concentration gradients would extend MC an important further step.

But there is much more to do.

The advantages of EnVarA are that it deals with all these at once including the effects of finite diameter in a self consistent nonequilibrium manner.

as ever

Bob

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Gmail - References

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