

# **NEW PROSPECTS FOR ELECTROSTATIC DATA STORAGE SYSTEMS**

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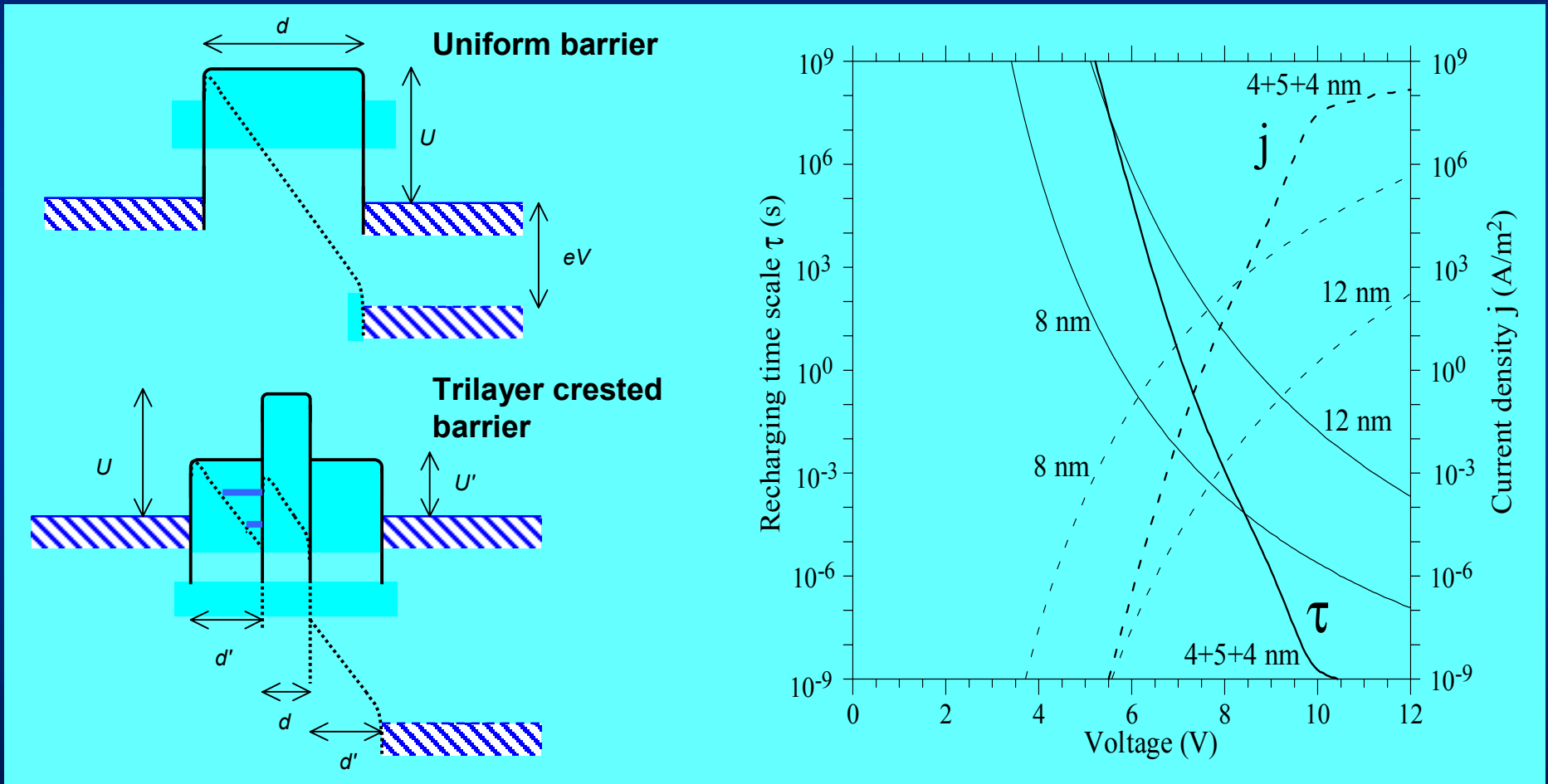
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# CRESTED TUNNEL BARRIERS



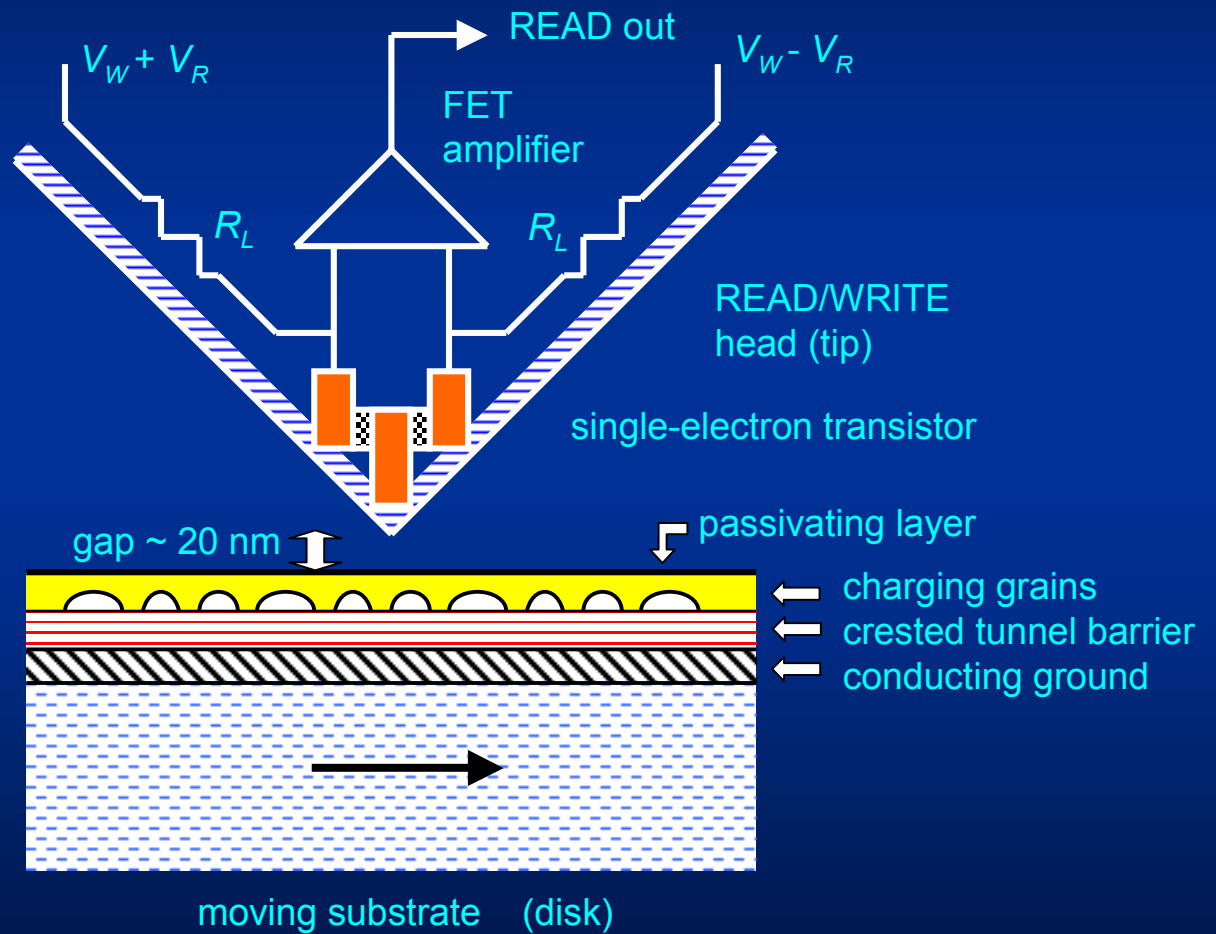
# ESTOR: BASIC IDEA

→ 1 bit: ~20 electrons  
in ~ 30 grains

→ SET/FET read-out

→ Estimated density  
beyond 1 Tbit/in<sup>2</sup>

→ Estimated  
bandwidth >1 Gbps



# ESTOR PROTOTYPE

## Scanning Single-Electron Transistor Microscopy: Imaging Individual Charges

M. J. Yoo,\* T. A. Fulton, H. F. Hess, R. L. Willett,  
L. N. Dunkleberger, R. J. Chichester, L. N. Pfeiffer, K. W. West

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sensitivity  $\sim 10^{-2} e$  ( $< 1K$ )  
spatial resolution  $\sim 30$  nm

