Report di fine anno

Classe di Nanoscienze – Secondo anno

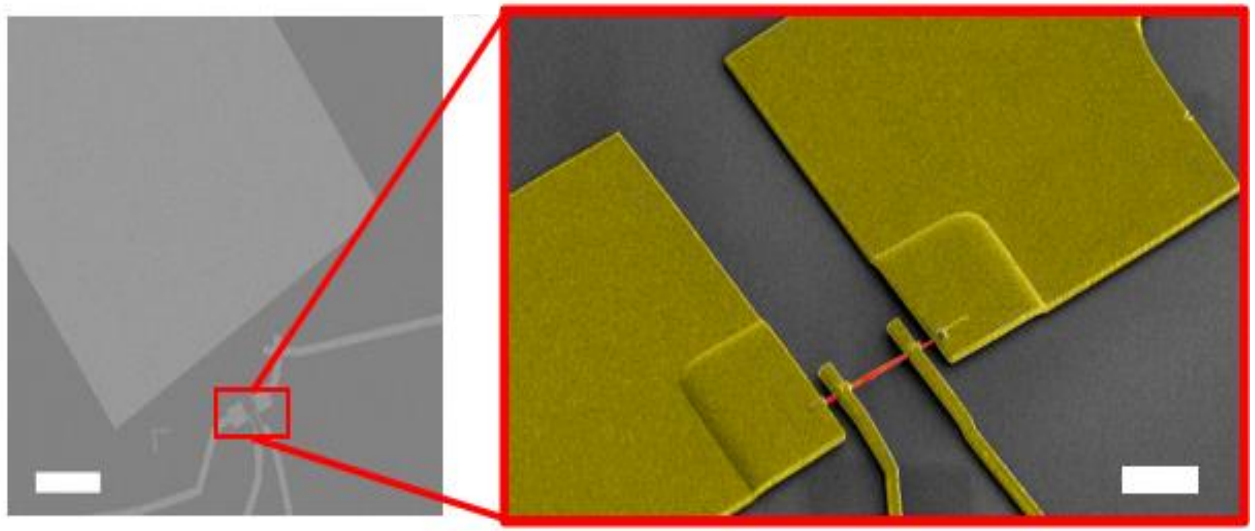
Nanodevice iontronics: combining soft- and condensed-matter in electric double layer transistors

Supervisor: Dr. Francesco Rossella

Domenic Prete

20/10/2020

National Enterprise for nanoScience and nanoTechnology



Dispositivi sospesi con gate elletrolitico

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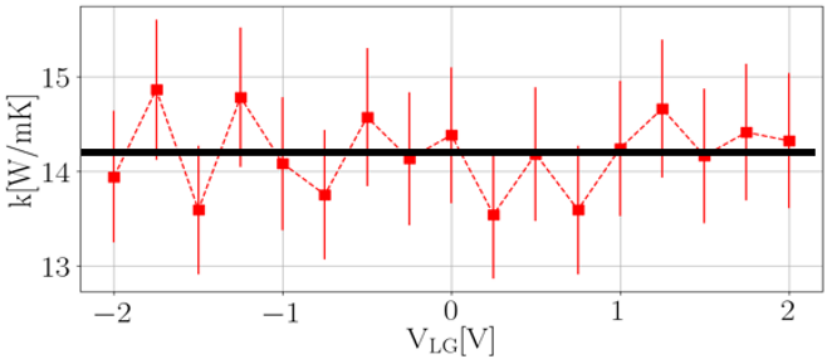
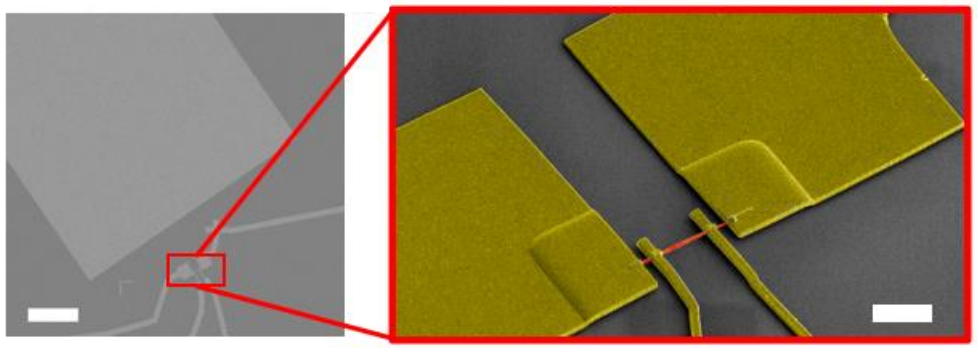
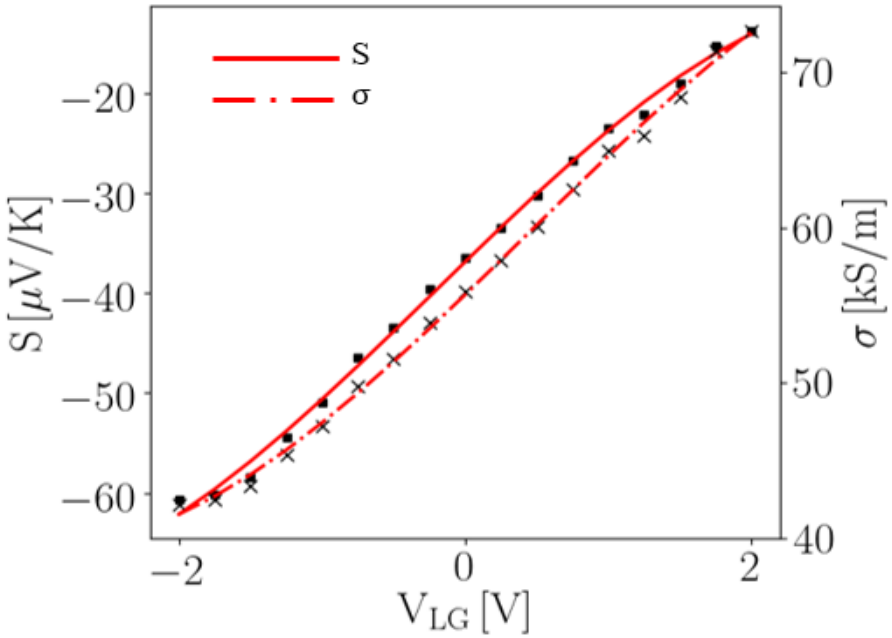
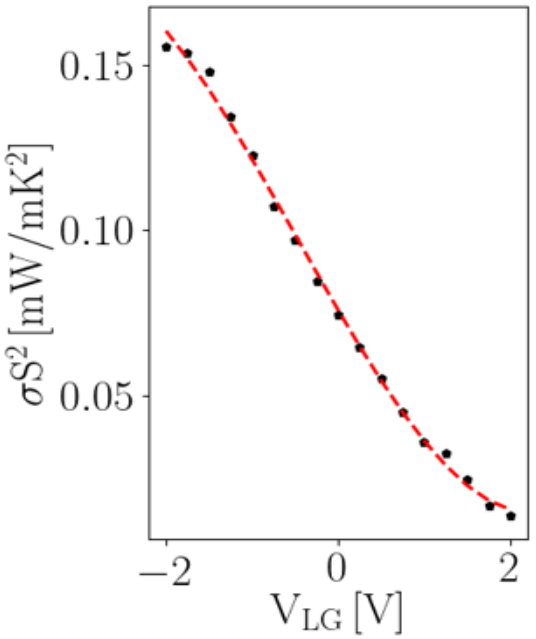
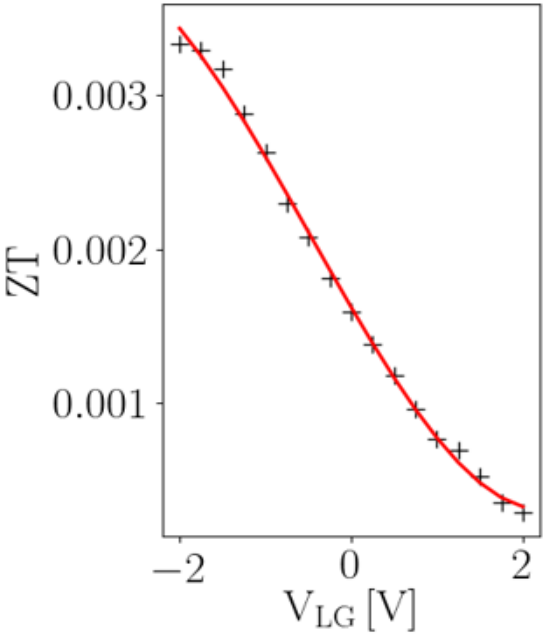




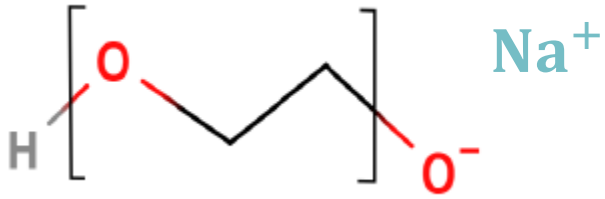


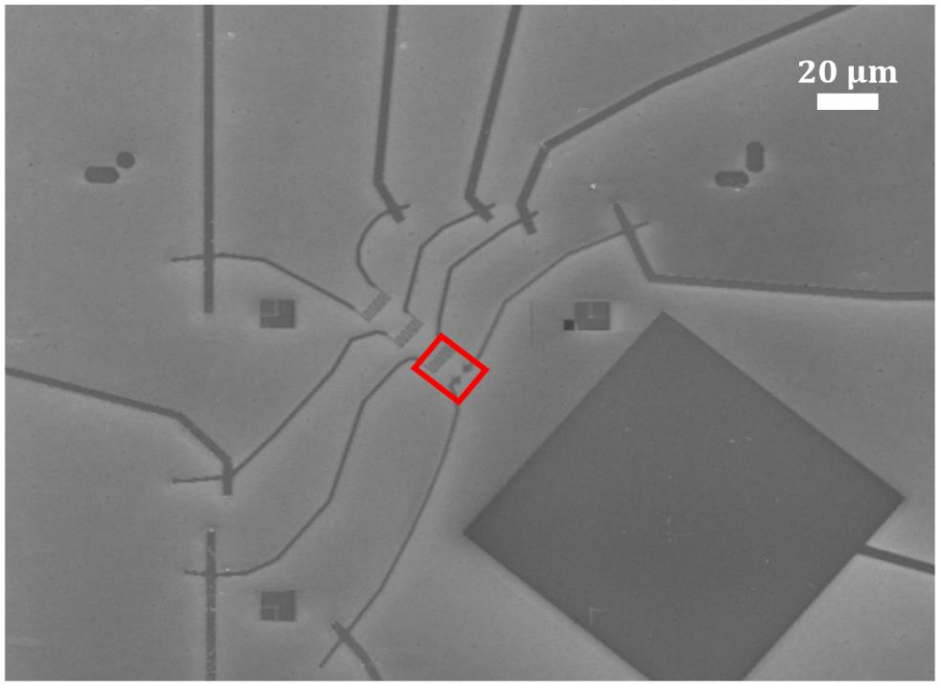


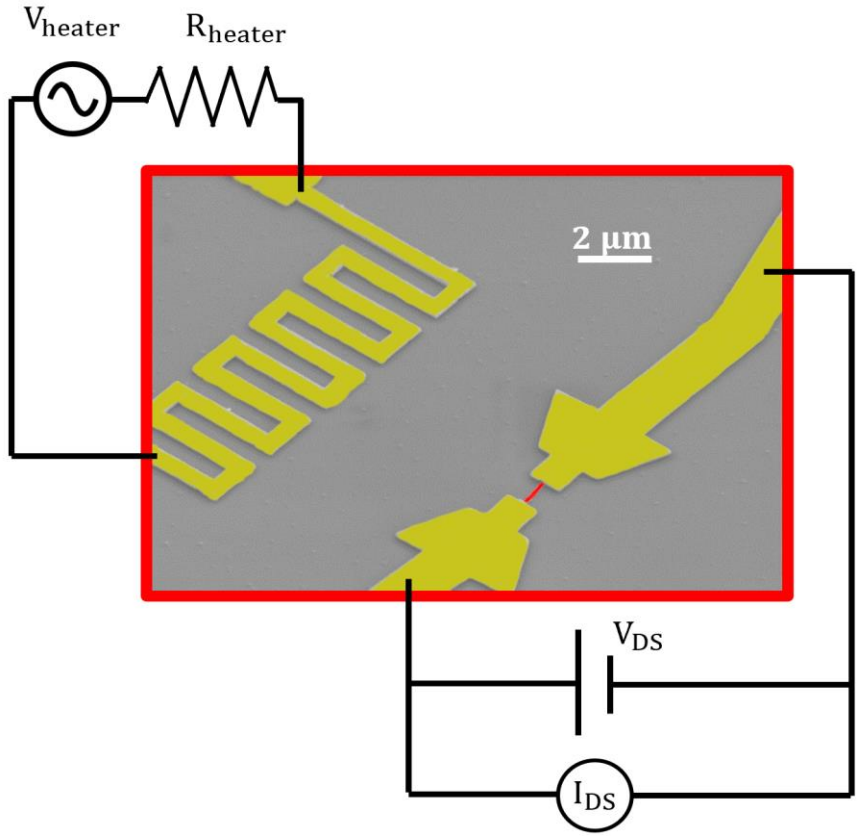


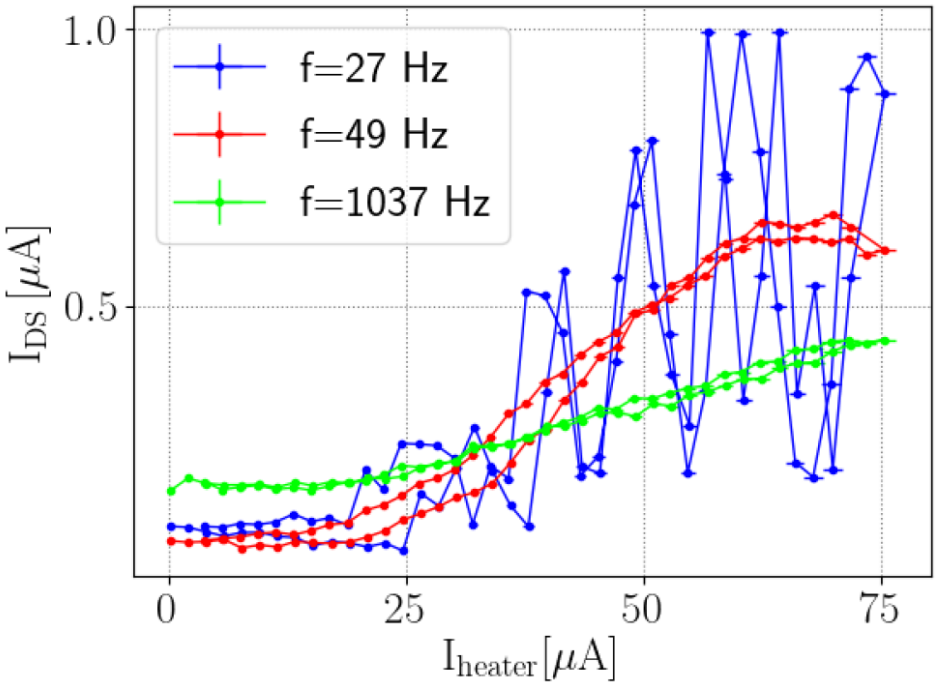
Controllo sulle proprietà termoelettriche

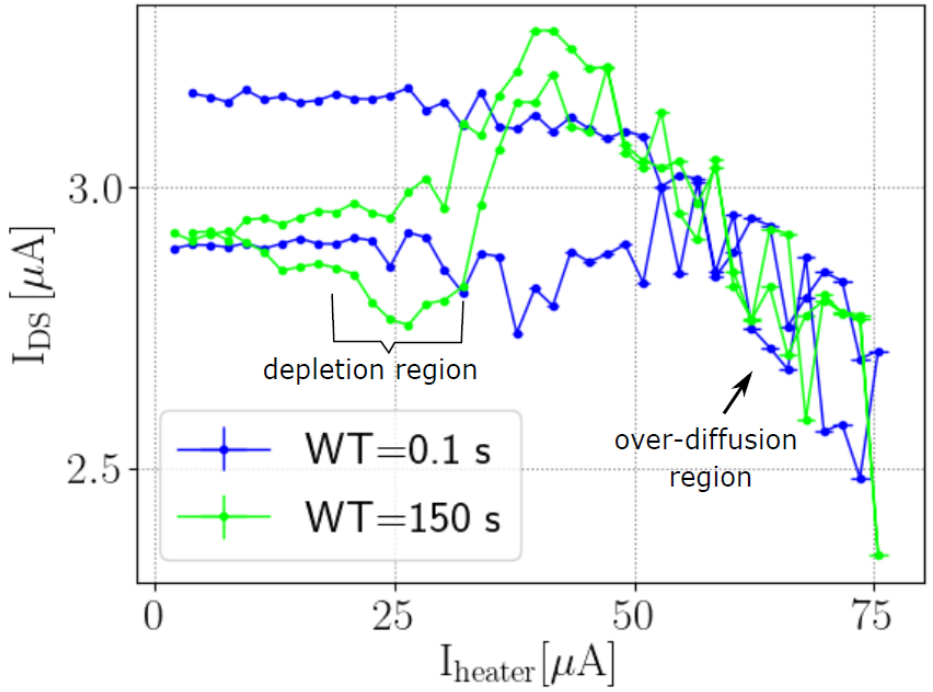
Un nuovo tipo di elettrolita: polimeri elettrolitici











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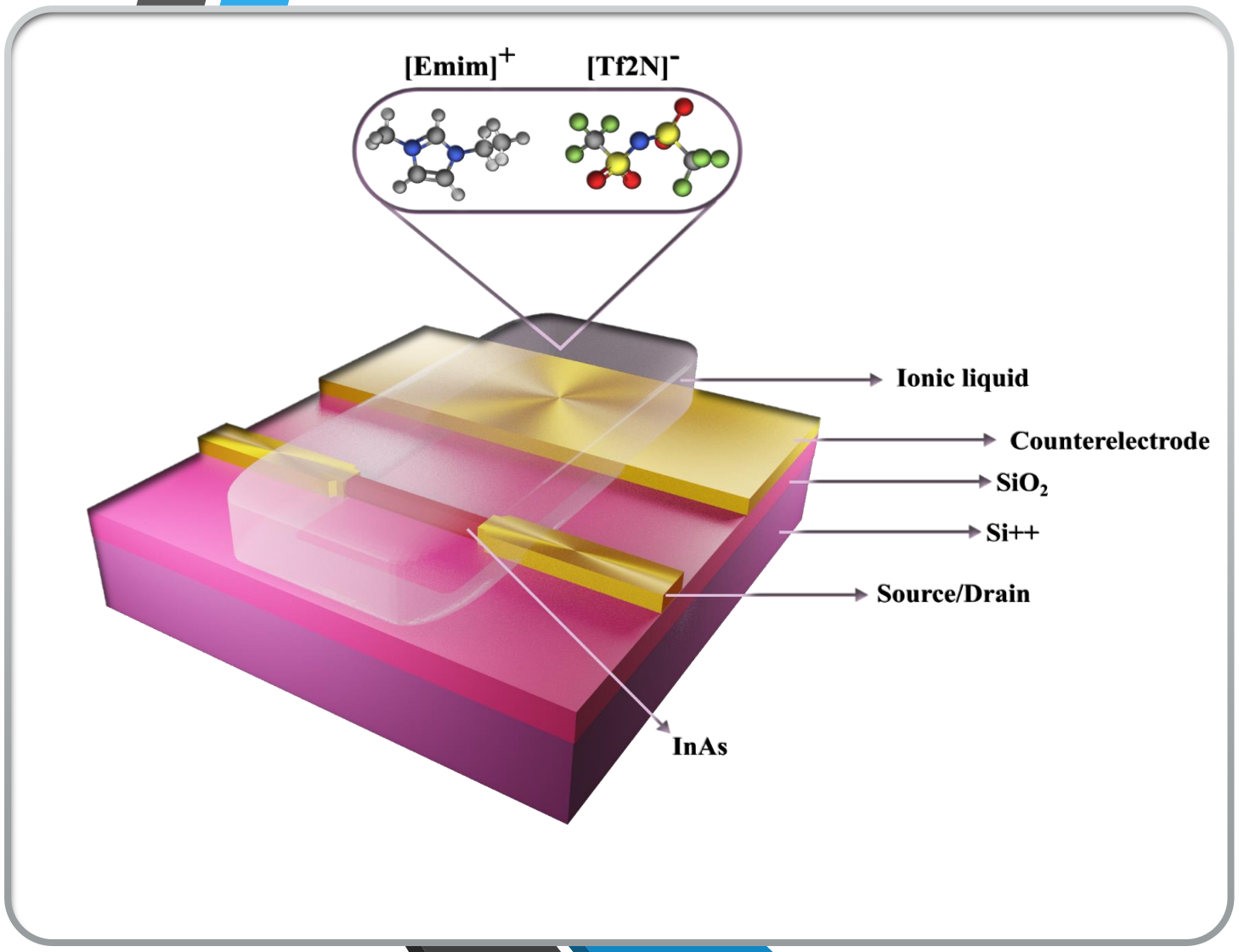

Doping elettrostatico con ionic liquid gating

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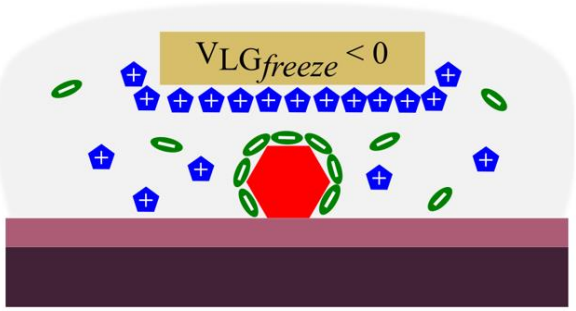
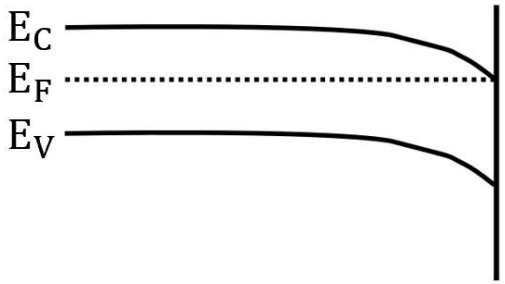
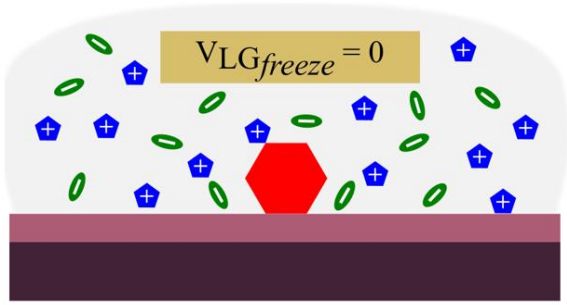
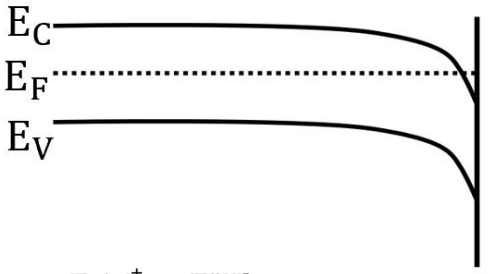
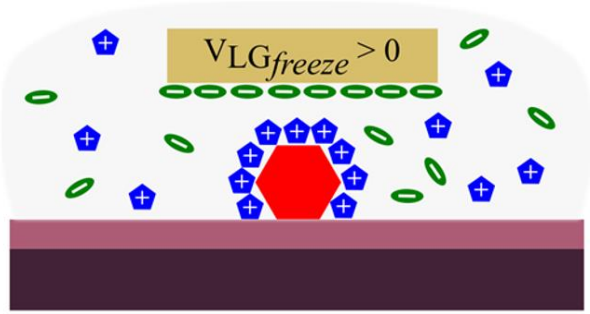
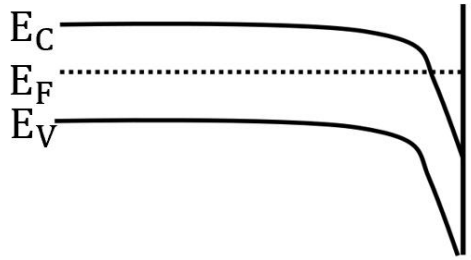


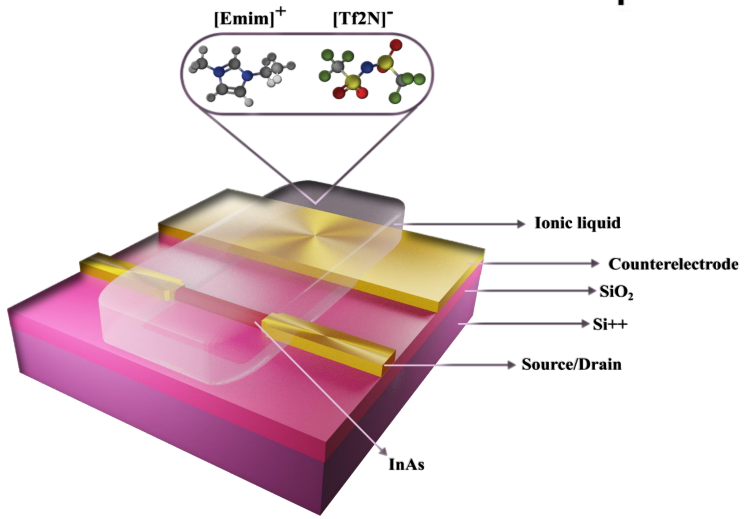






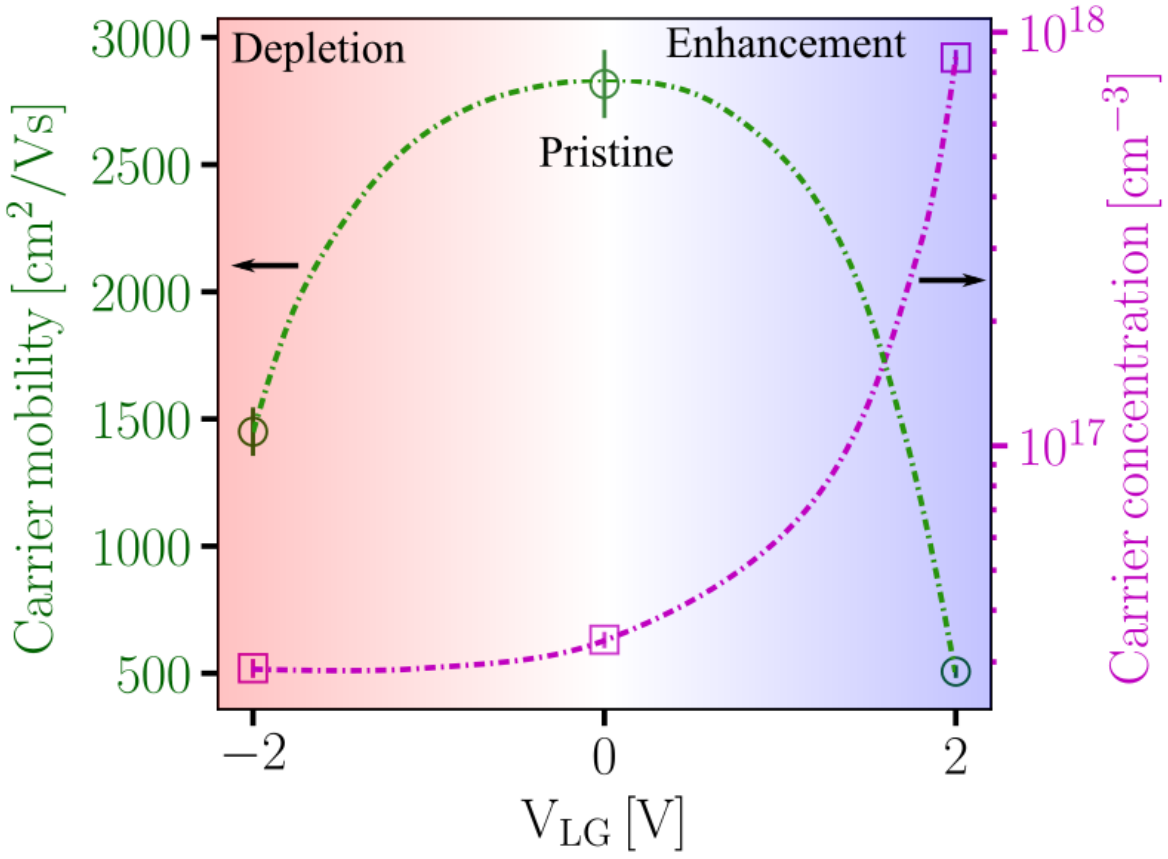




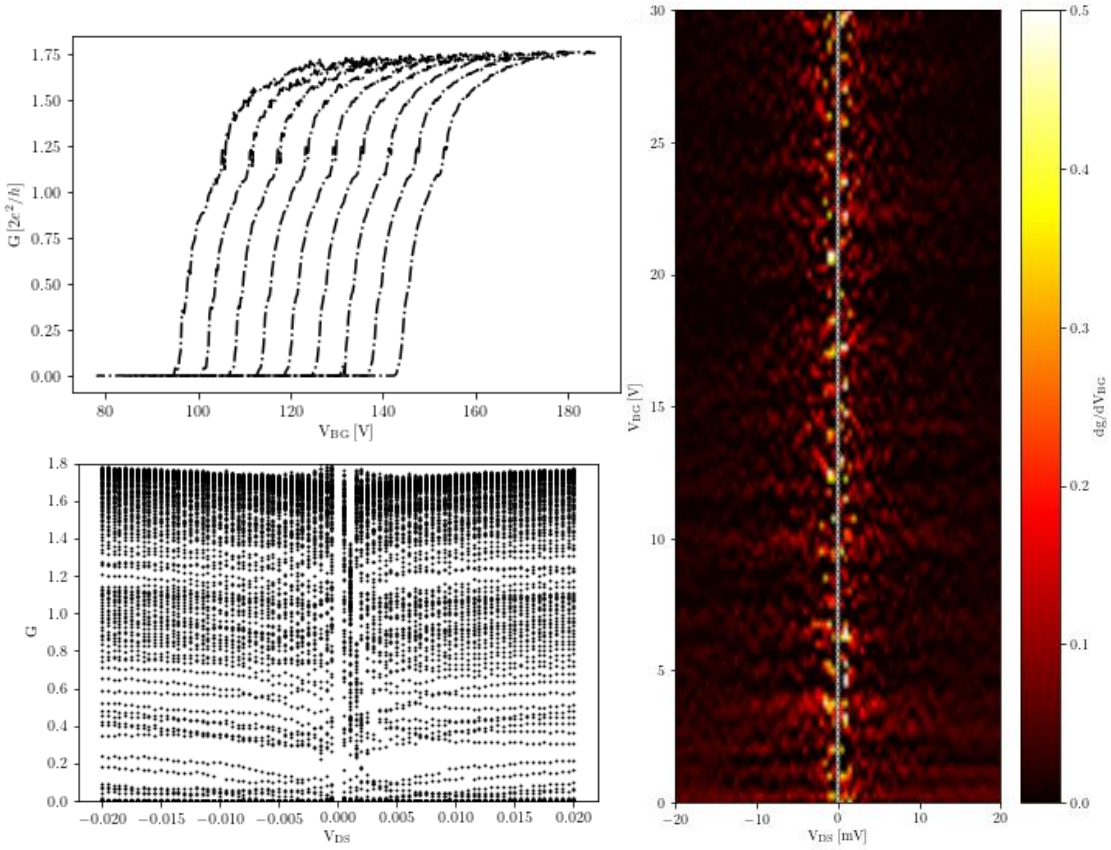


Impatto su mobilità e concentrazione dei portatori di carica

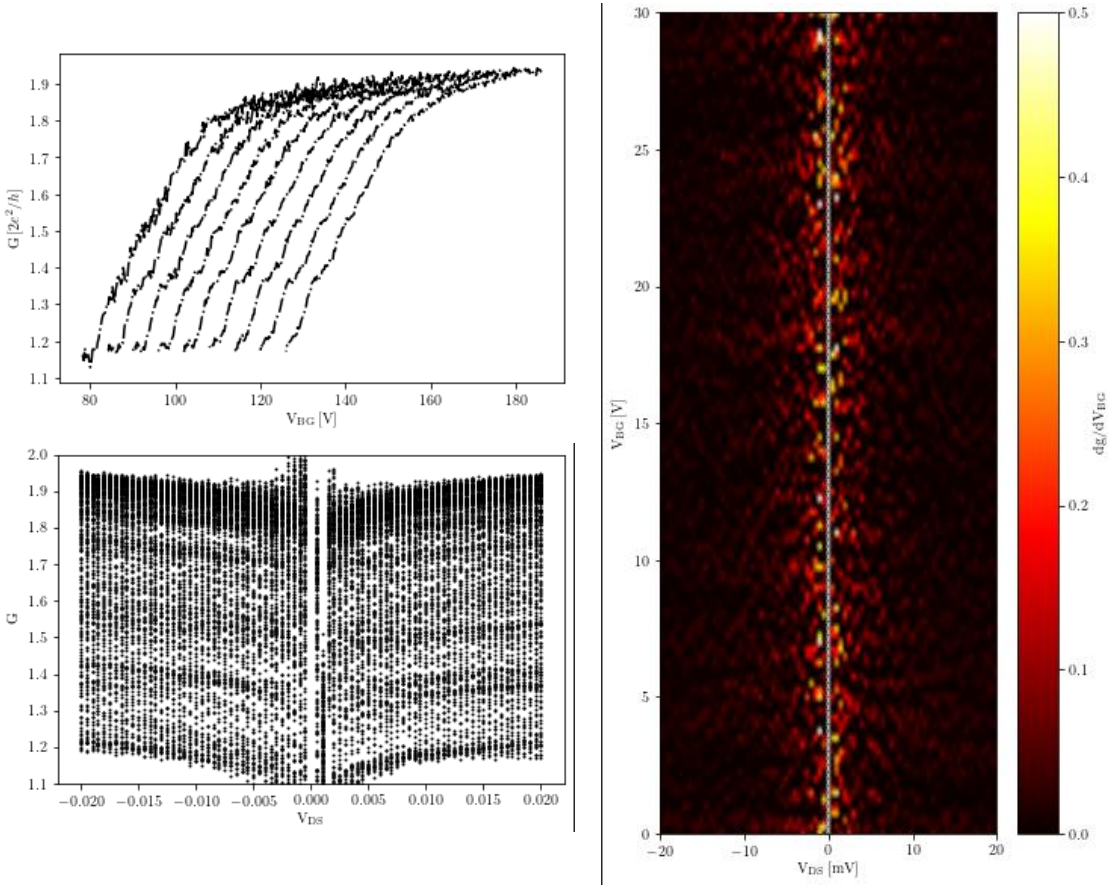
- $n_{enhancement}/n_{depletion} \sim 10^2$
- Impatto sulla mobilità dei portatori di carica



Applicazioni per misure di trasporto quantistico in materiali (quasi) monodimensionali



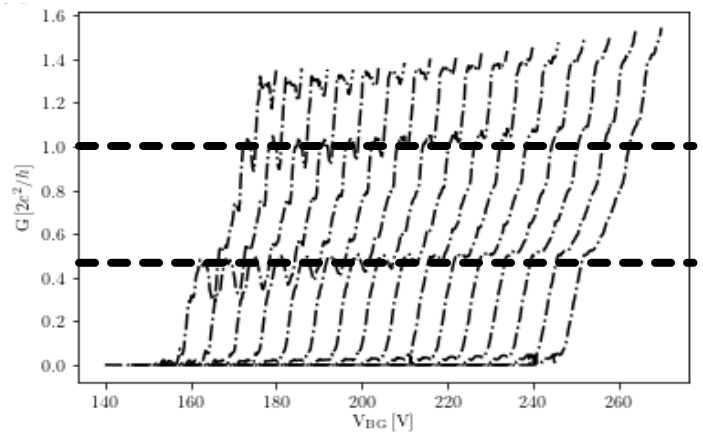
No doping

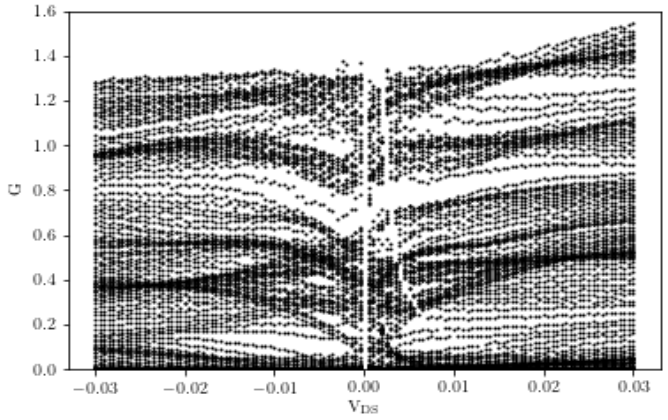


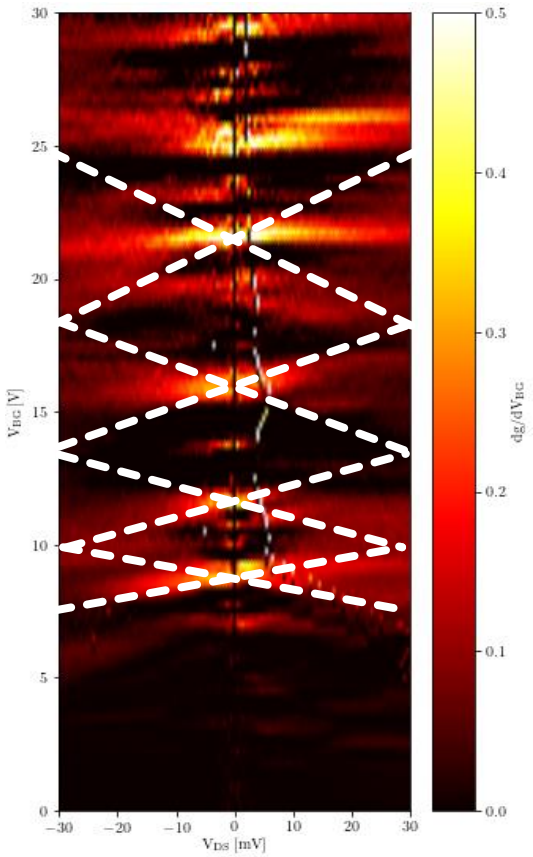
Iniezione carica

Applicazioni per misure di trasporto quantistico in materiali (quasi) monodimensionali

- Modulazione elettrostatica del regime di trasporto da diffusivo a balistico
- Posizione dei plateaux







Svuotamento di carica

Grazie!

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