

Université

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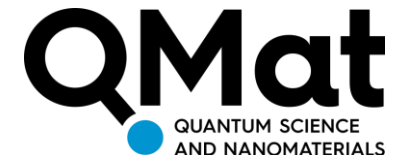
Determination of the disorder potential from quantum transport data using machine learning methods

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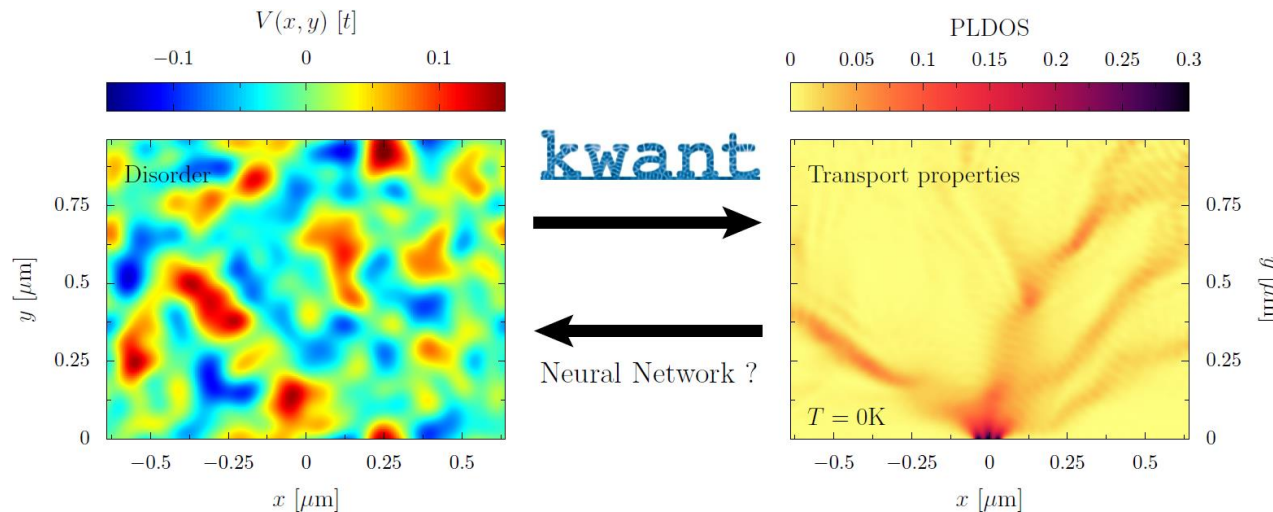
Institut de Physique et Chimie des Matériaux de Strasbourg (IPCMS)

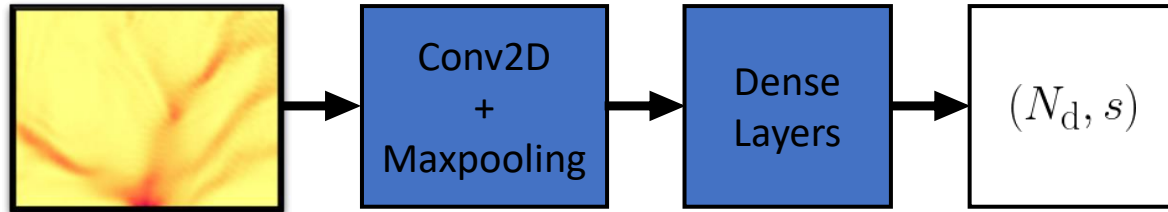
PRB **104**, 075422 (2021)



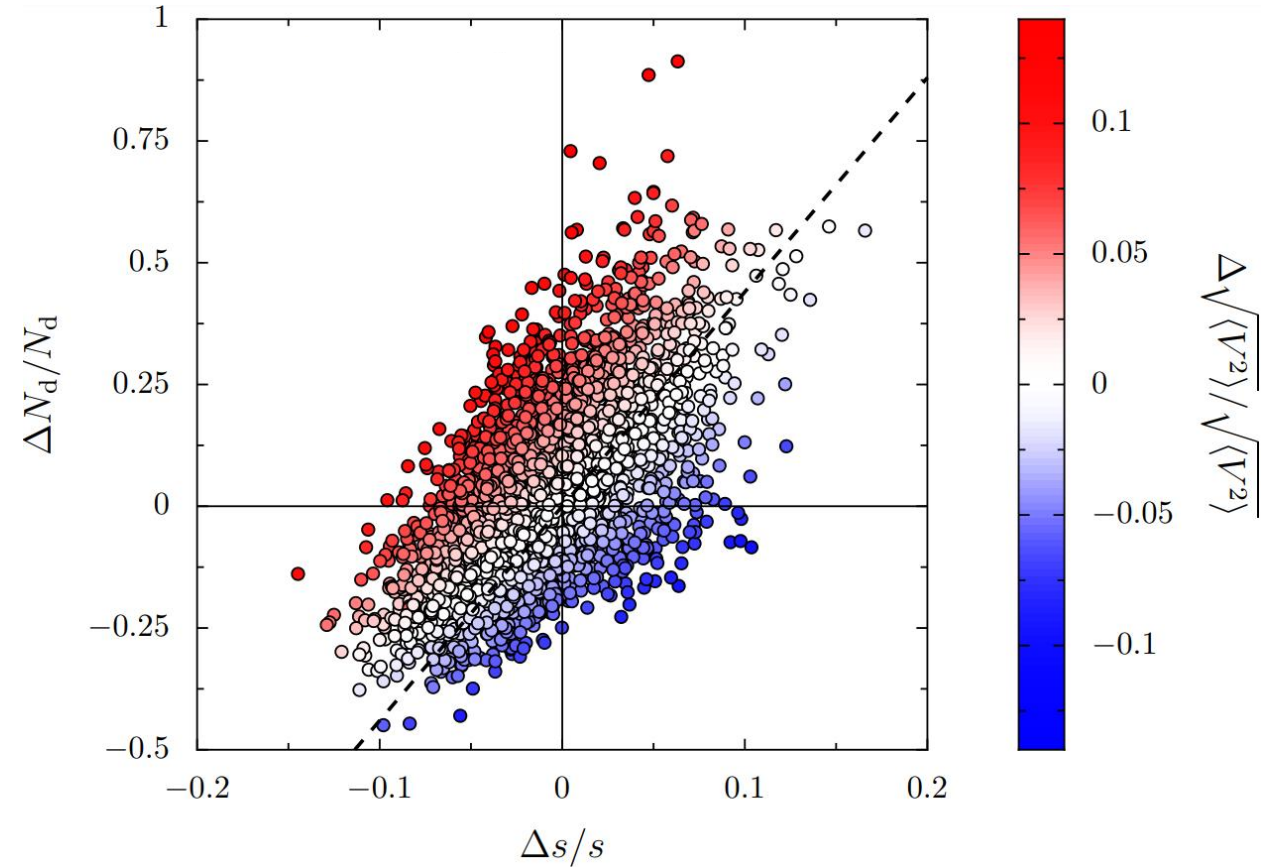
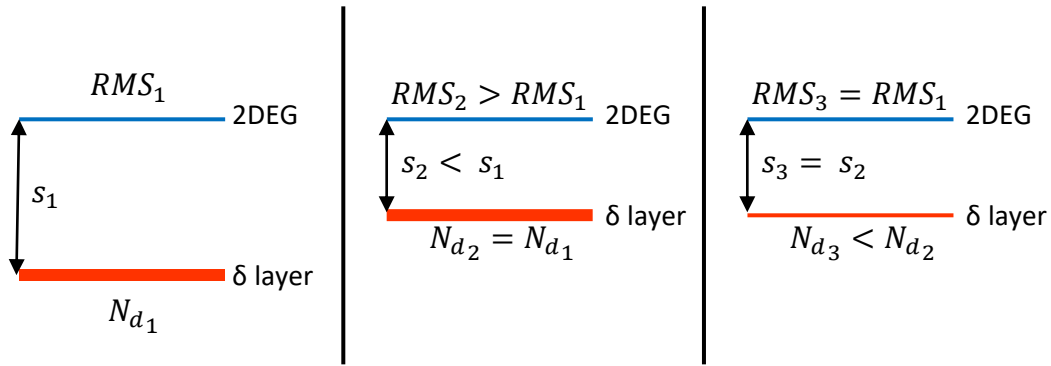
Electronic data experimentally extractable:

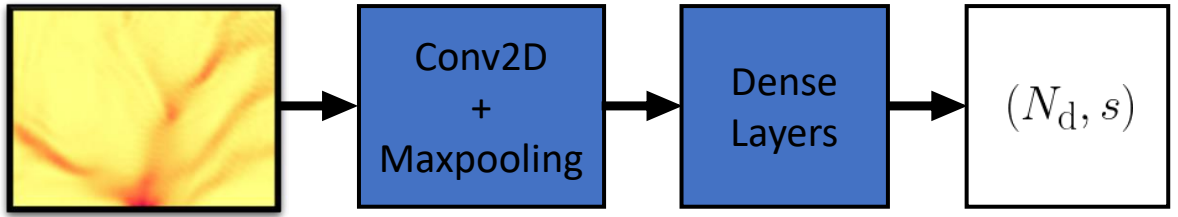
- Images of scanning gate microscopy (SGM)
 - Long to compute
 - Experimental data
- Partial local density of states (PLDOS)
 - Not experimentally extractable
 - Quite similar to SGM
 - Fast to compute



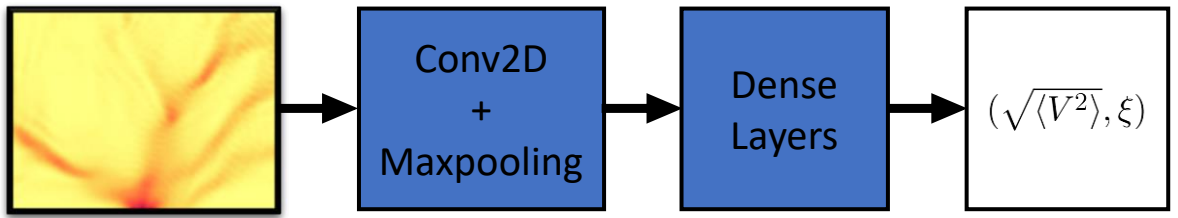


Dataset : 72.000 samples

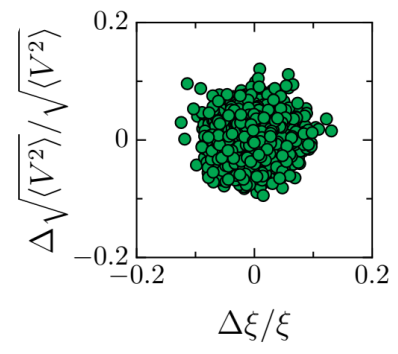
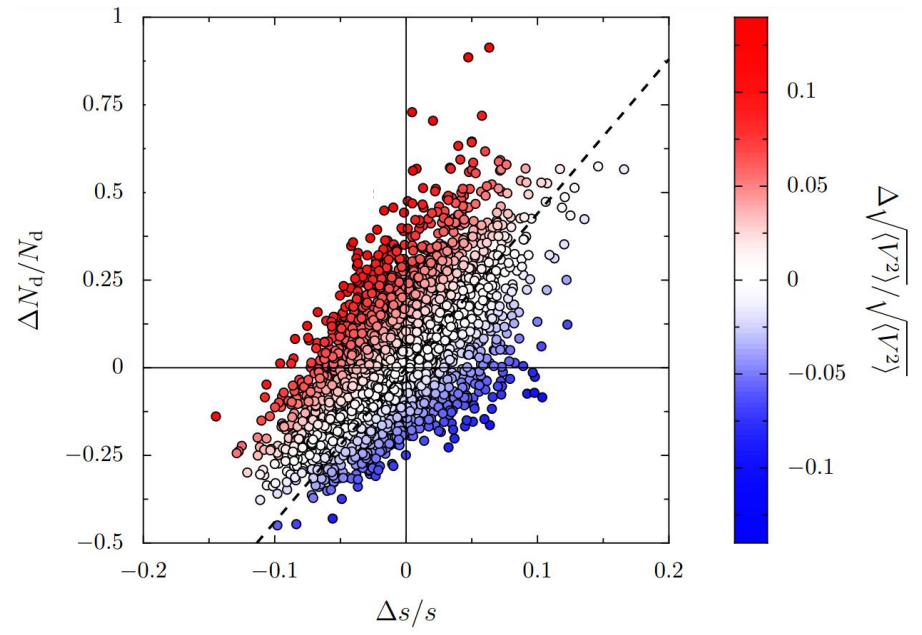


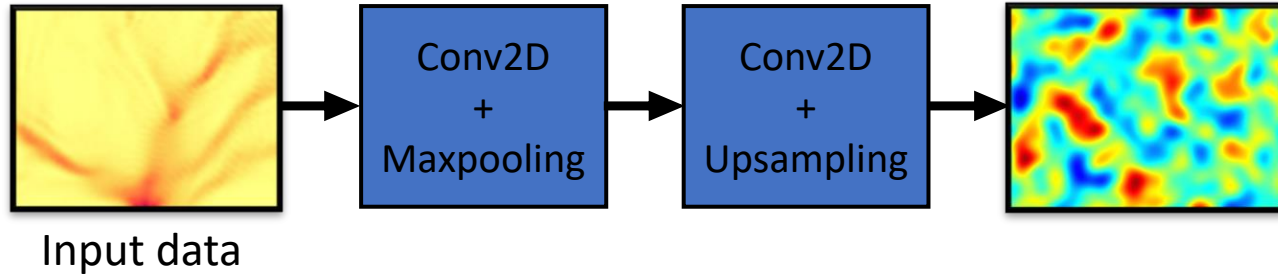


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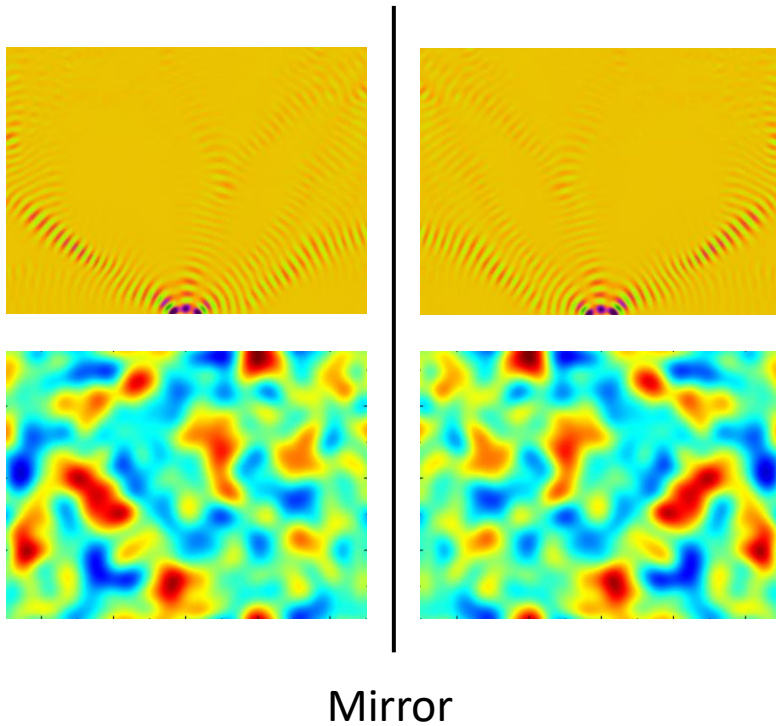




Dataset : 88.000 samples

- Data augmentation:

Expansion of the dataset



- Transfer learning:

Use a pre-trained neural network

