

Abstract Submitted  
for the MAR07 Meeting of  
The American Physical Society

**Chemical pressure and hidden one-dimensional behavior** AN-DREA SACCHETTI, LEONARDO DEGIORGI, ETH Zurich, THIERRY GIAMARCHI, University Geneva, NANCY RU, IAN FISHER, Stanford University — We report on the first optical measurements of the rare-earth tri-telluride charge-density-wave systems. Our data, collected over an extremely broad spectral range, allow us to observe both the Drude component and the single-particle peak, ascribed to the contributions due to the free charge carriers and to the charge-density-wave gap excitation, respectively. The data analysis displays a diminishing impact of the charge-density-wave condensate on the electronic properties with decreasing lattice constant across the rare-earth series. We propose a possible mechanism describing this behavior and we suggest the presence of a one-dimensional character in these two-dimensional compounds. We also envisage that interactions and umklapp processes might play a relevant role in the formation of the charge-density-wave state in these compounds.

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Date submitted: 07 Nov 2006

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