

Abstract Submitted
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Charge Physics of the Falicov-Kimball Model PHILIP BRYDON,
MIKLOS GULACSI, Australian National University, Canberra, Australia — The
charge-ordered phases of the one-dimensional Falicov-Kimball model are examined
using a non-perturbative representation of the itinerant electrons. An effective model
allows us to understand the competition between phase separation and long-range
order. We construct a ground-state phase diagram for partial band-filling. The
addition of an on-site hybridization potential is found to significantly alter the form
of the phase diagram, with the appearance of mixed-valence phenomena.

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