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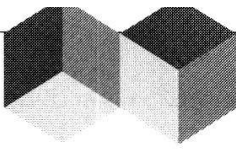
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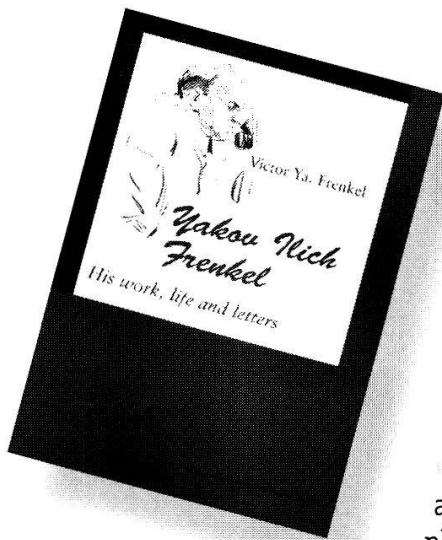
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Yakov Ilich Frenkel His work, life and letters

1996. 332 pages. Hardcover
DM 198.-/öS 1446.-/sFr. 168.-
ISBN 3-7643-2741-3



This book is dedicated to the Soviet theoretician Yakov (James) Ilich Frenkel (1894–1952), whose work in solid and liquid state physics is considered to be the golden founda-

tion of twentieth century physics. Best known are the Frenkel pairs (defects), kinetic theory of liquids, and his theory of mobile dislocations (Frenkel-Kontorova solitons). Today, the electron theory of solids is inconceivable without excitons - the quasiparticles he introduced in 1930. Frenkel also contributed important concepts to classical electrodynamics (which now go under Feynman's appellation "Fren-

kel's Fields") and to nuclear physics (the Bohr-Frenkel drop model). Compiled by his son Victor Frenkel, who is an authority in the field of the history of physics, the book surveys the genesis and ramifications of Yakov Frenkel's scientific achievements. Special attention is paid to Frenkel's civic convictions and his fight against official Soviet dogma for the acceptance and development of the theory of relativity and quantum mechanics in the Soviet Union of the 1920s - 1940s, a crucial thirty-year period in the history of Russian physics following the October Revolution. Much of the book is based on a wealth of archival documents, personal reminiscences and Frenkel's letters. He was a gifted and prolific correspondent and thanks to his trenchant observations, a vivid picture emerges of scientists, universities and cultures in England, France, Germany, Italy, the United States and various cities of the Soviet Union.

The book is richly illustrated by rare photographs and copies of drawings and portraits from Frenkel's own hand.

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