Serena / García

Nanowires

This book contains most of the contributions presented at the NATO Advanced Research Workshop on Nanowires, held at La Cristalera Residence Hall, Miraflores, Spain, from 23 through September 27, 1996. The workshop was co-directed by P. A. Serena and U. Landman. More than forty scientists from ten countries of Europe, the United States, and Japan attended this meeting and contributed with brilliant talks and stimulating discusions about their recent works. A total of thirty-three oral communications were given, covering the main part of topics related with the subject of the workshop. On one hand, a set of talks presented the theoretical basis of the conductance mechanisms in low dimensional systems, elaborated calculations on the electronic structure and mechanical behavior of metallic nanowires, the role of defects and geometry in conductance, etc. On the other hand, from the experimental perspective, the contributions included the deeply study of the conductance quantization phenomenom, the analysis of conductance histograms, the study of the origin of the residual resistance, the presentation of different techniques of fabrication and manipulation of nanowires, the study of forces appearing in nanowires and their relation with the electronic conduction, etc. The motivation of the present workshop was to gather together scientists with differents ideas on these topics, to exchange points of view, establish the future lines in their research, and devise the role of nanowires in the future incoming nanoscale technologies. We hope that most of these points were successfully achieved.

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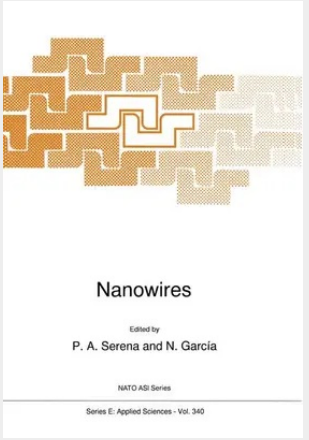

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