

Contents

| | |
|---|-----|
| Editorial | |
| <i>C. Thomsen</i> | 829 |
| * * * | |
| Optical tests of quantum nonlocality: from EPR-Bell tests towards experiments with moving observers | |
| <i>N. Gisin, V. Scarani, W. Tittel, and H. Zbinden</i> | 831 |
| * * * | |
| Quantum physics of entangled systems: Wave-particle duality and atom-photon molecules | |
| <i>G. Rempe</i> | 843 |
| * * * | |
| Superposition and quantum measurement of trapped atoms | |
| <i>D. J. Wineland, C. R. Monroe, C. Sackett, D. Kielpinski, M. Rowe, V. Meyer, and W. Itano</i> | 851 |
| * * * | |
| Einselection and decoherence from an information theory perspective | |
| <i>W. H. Zurek</i> | 855 |
| * * * | |
| Phonons: The second type of quantum excitations discovered | |
| <i>M. Cardona</i> | 865 |
| * * * | |
| Heavy-fermion systems | |
| <i>P. Fulde</i> | 871 |
| * * * | |
| The single electron transistor and artificial atoms | |
| <i>M. A. Kastner</i> | 885 |
| * * * | |
| Nano-scale studies of quantum phenomena by scanning probe spectroscopy | |
| <i>R. Wiesendanger</i> | 895 |
| * * * | |
| The fundamental fermions and bosons | |
| <i>J. Drees</i> | 905 |
| * * * | |

| | |
|--|-----|
| Quantum chromodynamics <i>G. 't Hooft</i> | 925 |
| * * * | |
| Particle accelerators <i>W. Schnell</i> | 927 |
| * * * | |
| Quantum mechanics and symmetries <i>J. Wess</i> | 937 |
| * * * | |
| The interpretation of quantum mechanics through 1935 <i>J. T. Cushing</i> | 939 |
| * * * | |
| Continuities and discontinuities in Planck's <i>Akt der Verzweiflung</i> <i>O. Darrigol</i> | 951 |
| * * * | |
| Relativity and quantum theory from Sommerfeld to Dirac <i>H. Kragh</i> | 961 |
| * * * | |
| The Compton effect: Transition to quantum mechanics <i>R. H. Stuewer</i> | 975 |