PRESS RELEASE
WINNERS ANNOUNCED
1989/1409H KING FAISAL INTERNATIONAL PRIZE
FOR
SCIENCE

Topic: PHYSICS

The Prize has been awarded jointly to **Professor Theodor W. Hansch**, (Professor of Physics at the University of Munich, and Consulting Professor of physics, Stanford, University), and to **Professor Ahmed H. Zewail** (Professor of Chemical Physics, California institute of Technology, Pasadena).

They have been honoured for their work on the applications of lasers (Light Amplification by Stimulated Emission of Radiation).

Dr. Hansch produced a most important work in laser physics. Before his work, attempts to study the details at atomic and molecular structure were confounded by the Doppler broadening of their spectral signatures that was thermal motion. Dr. Hansch showed how to he Doppler widths of spectral lines. When the Doppler broadening was thus drawn away a bewildering complexity was revealed in the spectra of heavier molecules.

Dr. Zewail's reputation rests on his excellent and pioneering work on time resolved spectroscopy of molecular processes on a picosecond and femtosecond time scale. One of the interesting questions is: How long does it take for the energy, selectively specific vibrational modes of a molecule, to become redistributed among the different degrees of this work contributes to a better understanding of fundamental processes, and has also importance for a possible realization of laser-driven chemical reactions.