



*Applied Physics
Optics Seminar*

Crystal Torus: Physics and Applications

Dr. Vladimir S. Ilchenko

Jet Propulsion Laboratory

Light can be stored in a crystal torus for more than 10 microseconds. We will discuss material science, nonlinear optics, photonics and cavity QED applications of this optical resonator.

Biography:

Vladimir received his Ph.D. in 1986 in V.B.Braginsky's gravity-wave research lab at Moscow State University. His original research subject was in sapphire-based cryogenic ultra-high-Q microwave resonators and oscillators. During subsequent years, as faculty member at Moscow State, together with his colleagues he pioneered in early demonstrations and studies of optical high-Q glass microresonators with whispering-gallery modes (later dubbed "microspheres"). These results triggered the interest of several leading physics research groups around the world (including Jeff Kimble's group at Caltech) to fundamental and technical applications of microspheres. With several of those groups Vladimir maintained fruitful collaborations. In 1998 he left the position of associate professor at Moscow State and joined the Time and Frequency science and technology group at the Jet Propulsion Laboratory. His recent work is focused on development and applications of crystalline cavities with whispering-gallery modes for lasers, modulators, sensors and microwave oscillators.

Wednesday, June 16, 2004.

4:00-5:00p.m.

Watson 104

Refreshments at 3:45pm in the Watson lobby