

## **1.9 Photorefractive Effects in Organic Crystals and Polymers**

(S. Follonier, Ch. Bosshard, F. Pan, work on polymers in collaboration with M. Döbler and U. Suter, Institute of Polymers, ETH Zürich)

Since the discovery in our group (1991) of the photorefractive effect in organic crystals, interest has rapidly grown world-wide, mainly due to the attractive industrial future of organic polymers. Our interest is not only restricted to these promising polymers, but also includes the organic crystals. Our experiments with crystals should lead to a better theoretical comprehension and modelling of the various processes needed for photorefractive effects to occur in organic compounds (i.e. the type of charge carriers, the excitation process, the charge transport mechanism and the trapping process).

In addition, we are in the process of developing methods for poling a polymer sandwiched between two electrodes (ITO glass), which is of basic importance for needed measuring the photorefractive effect. After initial technical problems we can now concentrate on the improvement of the chemical composition of the molecules used for these photorefractive polymers.