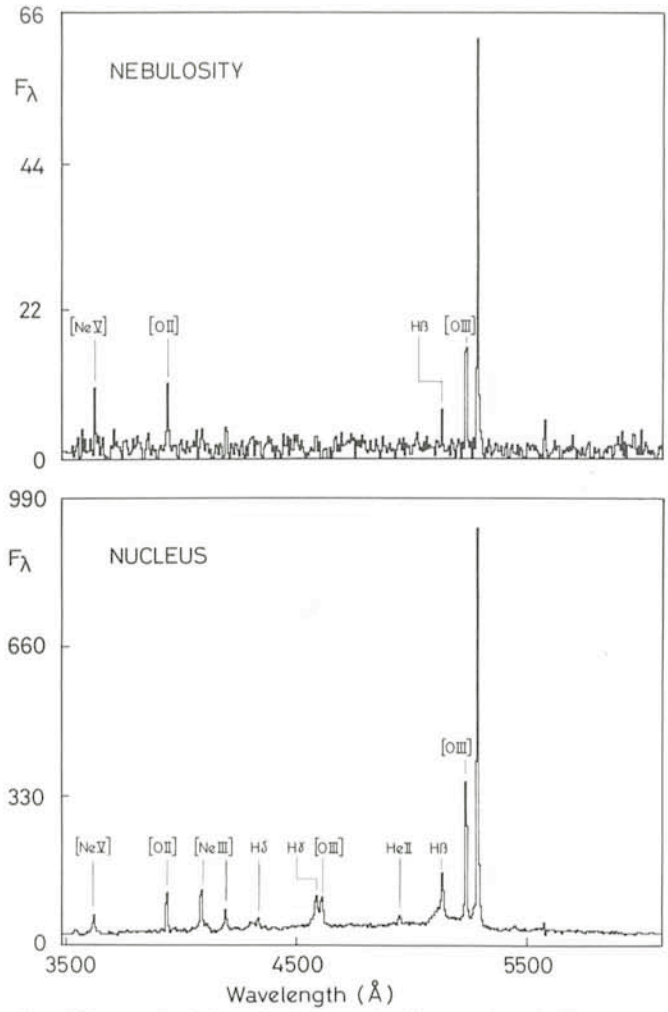



*Fig. 5: Spectrum of the nebulosity and of the nucleus of 3C 445 after sky subtraction and photometric correction.*

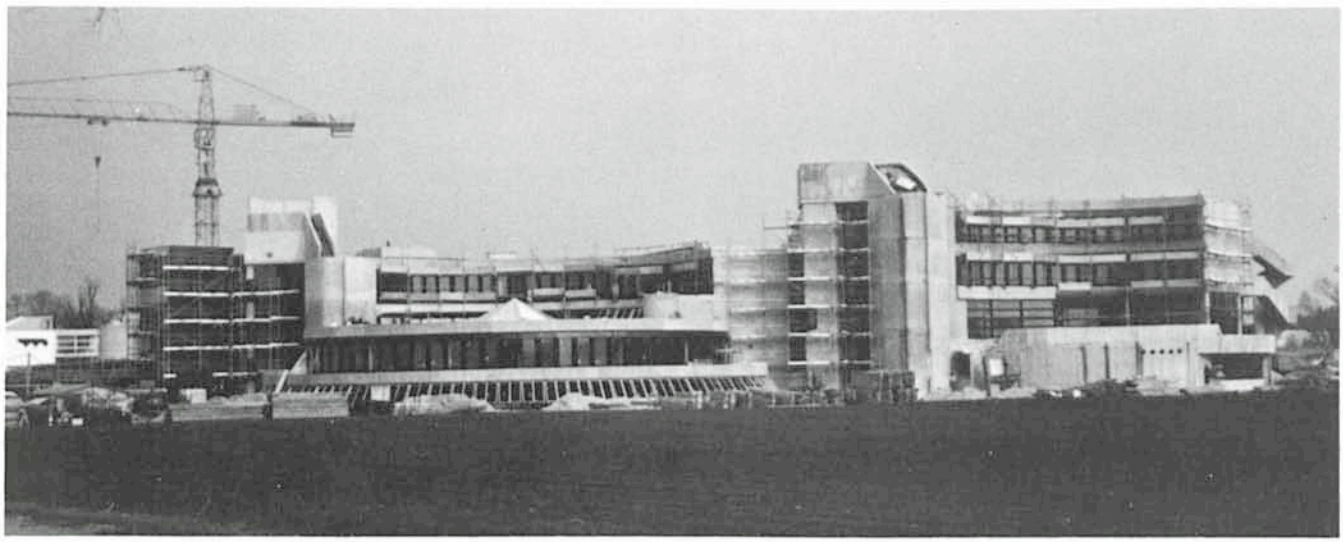
sities in the nucleus indicate a wider range of ionization than in the nebulosity. The interpretation of the spectrum of the nebulosity has been done as follows: in a nebulosity exposed to an ionizing source located at a distance R, the degree of ionization and therefore the line intensity ratios are essentially set by the parameter $\varphi/n_{part.}$, which is the ratio of the ionizing flux incident on the nebulosity to the density of particles in the nebulosity; $\varphi$ is equal to $L_\nu/4\pi R^2 h_\nu$, where $L_\nu$ is the absolute luminosity of the ionizing source. If $\varphi$ is known, then the line intensity ratios give the particle density. Daniel Pequignot of Meudon Observatory and I have recently calculated models for a nebulosity exposed to a power-law ionizing spectrum and have applied them to the highly ionized nebulosity associated with the SB0 Seyfert galaxy NGC 3516 (Ulrich and Pequignot, 1 May, 1980, *Astrophysical Journal,* in press). These models can be applied to 3C 445. In this case, $L_\nu$ is estimated from the value of the continuum intensity of the nucleus at 3300 Å and assuming that the ionizing spectrum is a power law $f_\nu \propto \nu^{-1}$. Projection effects are neglected and R is taken to be equal to 9 kpc. For the value of $\varphi$ so calculated, the line intensity ratios in the nebulosity of 3C 445 correspond to $n_{part.} \sim 15$ cm$^{-3}$. This gives a total mass for the nebulosity observed in an area of 6".8 x 1".7 (11 x 2.8 kpc) of $10^6 M_\odot$, i.e. as large as the mass of ionized gas present in the nucleus.

There are a number of cases already known of ionized nebulosities associated with quasars and radio galaxies and located at large distances from the nucleus. This is, however, the first case where the density of the nebulosity is determined. The reason is that we could detect [NeV] λ 3426, which is a good diagnostic of the degree of ionization. This detection was made possible by using a sensitive digital detector, which enabled us to detect faint lines and to perform sky subtraction satisfactorily.

## ESO Headquarters Building Nearing Completion

In spite of the winter, construction work on the ESO Headquarters building has rapidly advanced during the past months. The outside is almost terminated and the work is now concentrating on the technical installations inside the building.

Below and on page 12 we show some photographs of the building, all taken on March 24.



*ESO European Headquarters at Garching. View taken from the rear of the building (south-west).* / La sede principal de la ESO. Vista de la parte posterior del edificio (lado sudoeste).