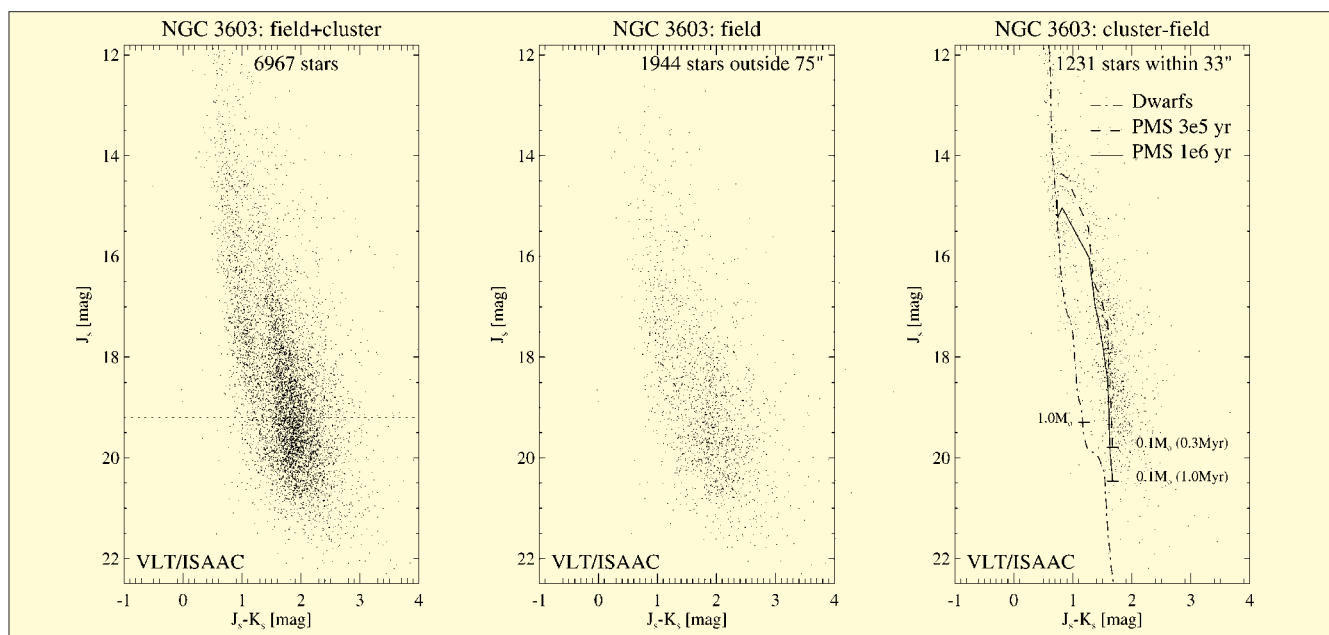




First Scientific Results with the VLT in Visitor and Service Modes

Starting with this issue, *The Messenger* will regularly include scientific results obtained with the VLT. One of the results reported in this issue is a study of NGC 3603, the most massive visible H II region in the Galaxy, with VLT/ISAAC in the near-infrared J_s , H , and K_s -bands and HST/WFPC2 at $H\alpha$ and $[N II]$ wavelengths. These VLT observations are the most sensitive near-infrared observations made to date of a dense starburst region, allowing one to investigate with unprecedented quality its low-mass stellar population. The sensitivity limit to stars detected in all three bands corresponds to $0.1 M_{\odot}$ for a pre-main-sequence star of age 0.7 Myr. The observations clearly show that sub-solar-mass stars down to at least $0.1 M_{\odot}$ do form in massive starbursts (from B. Brandl, W. Brandner, E.K. Grebel and H. Zinnecker, page 46).



J_s versus J_s-K_s colour-magnitude diagrams of NGC 3603. The left-hand panel contains all stars detected in all three wavebands in the entire field of view ($3.4' \times 3.4'$, or $6 \text{ pc} \times 6 \text{ pc}$); the centre panel shows the field stars at $r > 75''$ (2.25 pc) around the cluster, and the right-hand panel shows the cluster population within $r < 33''$ (1 pc) with the field stars statistically subtracted. The dashed horizontal line (left-hand panel) indicates the detection limit of the previous most sensitive NIR study (Eisenhauer et al. 1998). The right-hand panel also shows the theoretical isochrones of pre-main-sequence stars of different ages from Palla & Stahler (1999) and the main sequence for dwarfs. For comparison, some corresponding stellar masses have been plotted next to the isochrones.