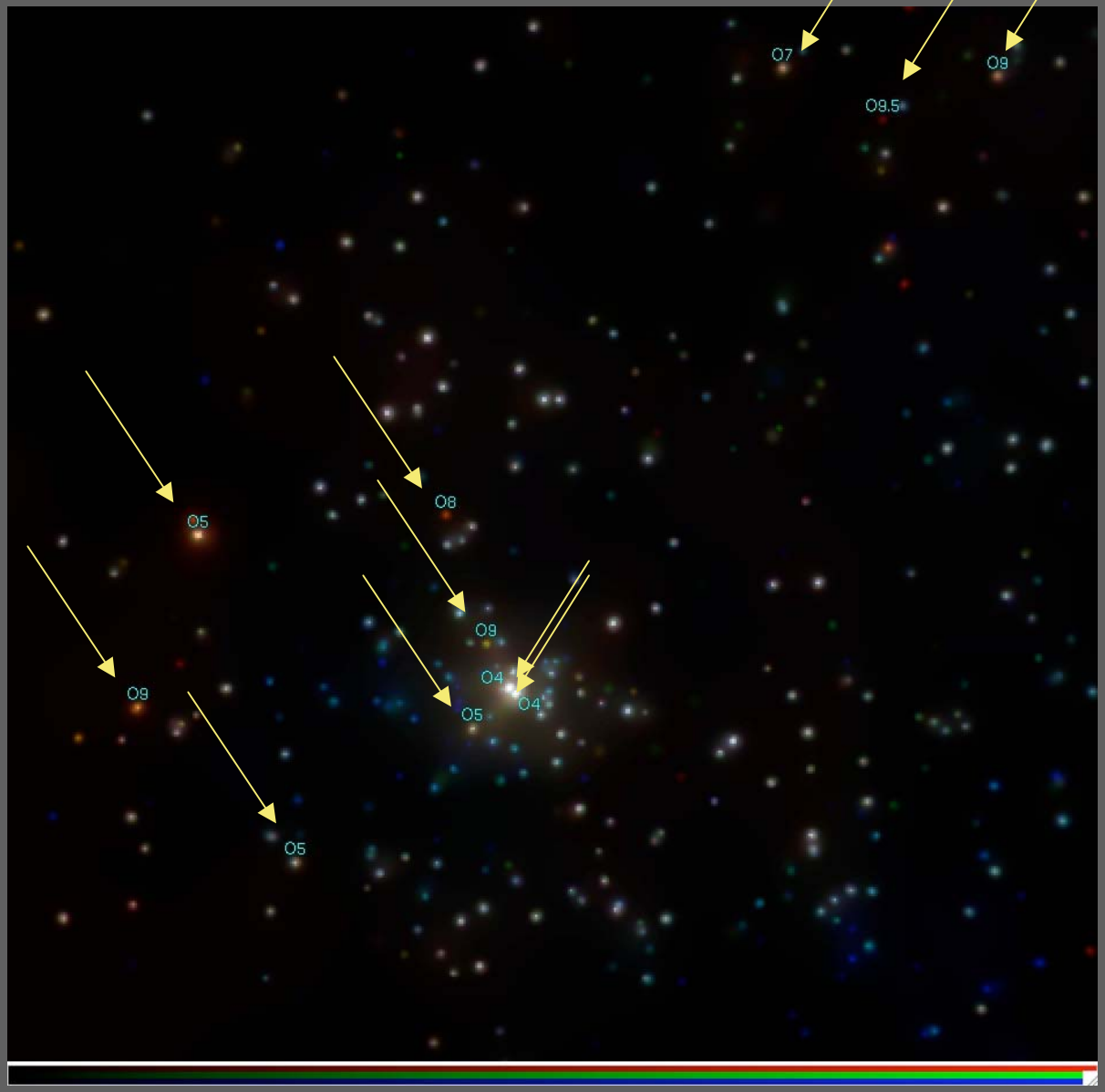
Marc's images

Four different clusters, spanning several million years in age.

Chandra images, color coded for photon energy (hardness).

M17: ~0.5Myr



soft

medium

hard

4’

Orion Nebula Cluster: ~1Myr

Dashed arrows point to very early B stars.

soft

medium

hard

4’

Tr 14: ~0.5 - 2 Myr

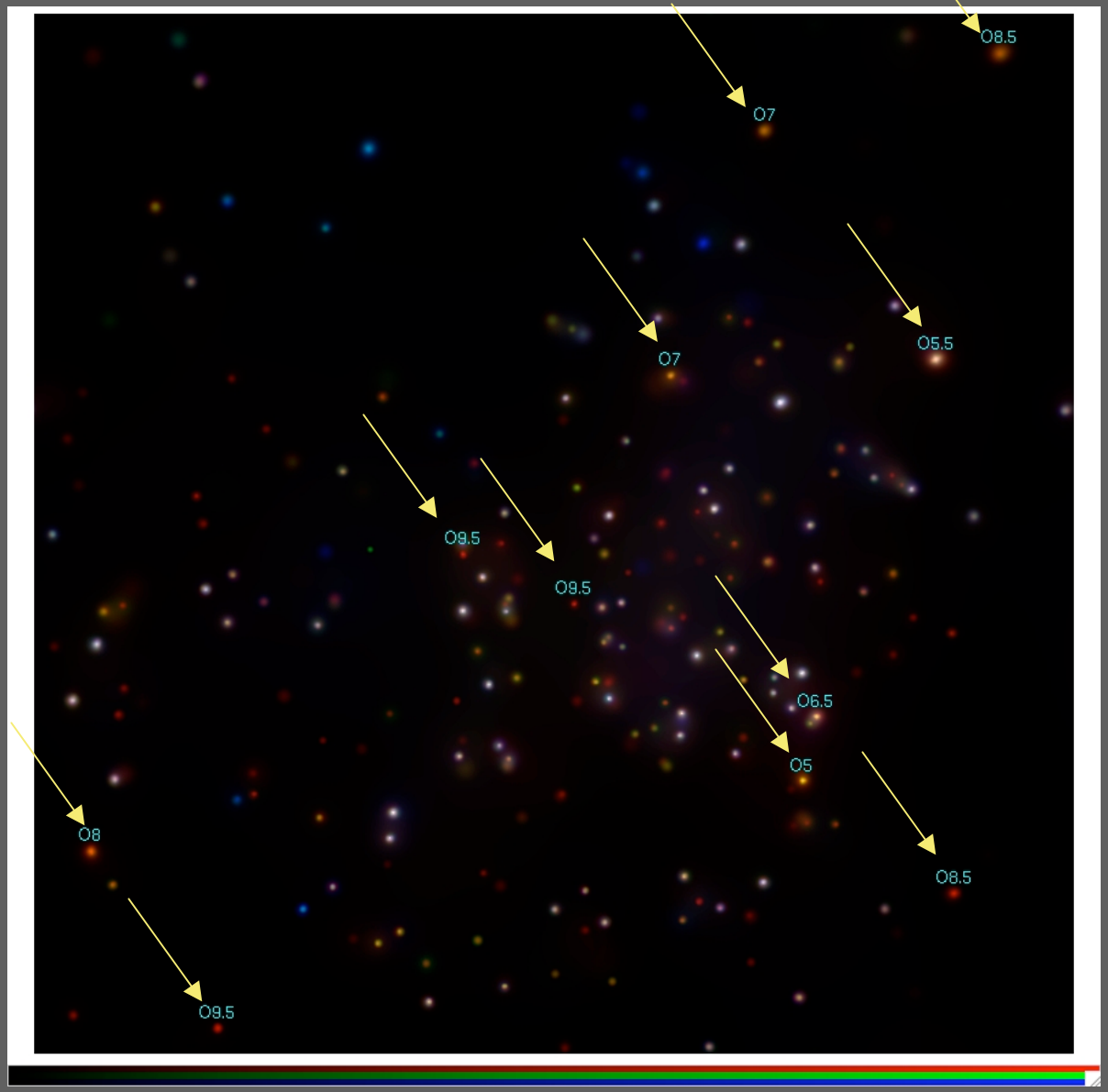
soft

medium

hard

4’

NGC 6611: ~5Myr



soft

medium

hard

7’

The first three clusters, the ~1Myr ones, have a mix of softer (and non-variable) and harder (variable) O star

But the last one, the older, ~5Myr, NGC 6611 in M16, has only softer O stars

The color coding is not identical in each frame; it's adjusted to compensate for their different ISM column densities. But roughly, the RGB channels correspond to <1keV, 1-2keV, and >2 keV.

In many cases, B stars are as hard or harder (and brighter) than O stars.

The very hardest stars are always flaring late-type T Tauri stars.

What's happened to the hard, variable O stars by 5 Myr?