

THE AGE OF ELLIPTICAL GALAXIES IN CLUSTERS

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Nearby cluster ellipticals follow a very tight relation between velocity dispersion σ and Mg absorption (e.g. Bender *et al.* 1993, *ApJ* 411, 153). The small scatter in Mg implies that the age and metallicity spread at a given σ in ellipticals is smaller than 15% (applying Worthey's population synthesis models 1994, *ApJS* 95, 107). This means that ellipticals cannot have formed continuously over the Hubble time and ongoing merger processes represent only a tail of latecomers.

More reliable information about the major star formation epoch in ellipticals can be obtained from the redshift evolution of the Mg- σ relation. We have observed several clusters at $z \sim 0.37$ with the Calar Alto and La Silla 3.5m telescopes and measured the weakening of Mg in member ellipticals (see the figure). Translating the observed Mg difference between today and $z \sim 0.37$ with Worthey's models into a relative change in age indicates that the bulk of stars in these cluster ellipticals formed at redshifts above 3. (Bender & Ziegler 1995, MPA Report, Garching).

