

## **Chemical Evolution of the ICM**

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**Abstract** The high metallicity of the intra-cluster medium (ICM) is generally interpreted on the base of the galactic wind scenario for elliptical galaxies. In this framework, we develop a toy-model to follow the chemical evolution of the ICM, formulated in analogy to chemical models for individual galaxies. The chemical evolution model for the cluster computes the Galaxy Formation History (GFH) of cluster galaxies, connecting the final Luminosity Function (LF) to the corresponding metal enrichment history of the ICM. The observed LF can be reproduced with a smooth, Madau-plot like galaxy formation history (peaking at  $z = 1-2$  plus a "burst" of formation of dwarf galaxies at high redshift. The model is used to test the response of the predicted metal content and abundance evolution of the ICM to varying input galactic models. In our favoured model, chemical enrichment is computed from "galactic yields" based on models of elliptical galaxies with a variable IMF, favouring the formation of massive stars at high redshift and/or in more massive galaxies. For a given final galactic luminosity, these model ellipticals eject into the ICM a larger quantity of gas and of metals than do standard models based on the Salpeter IMF. Henceforth, the high Iron-Mass-to-Luminosity-Ratio characteristic of the ICM can be reproduced.