

- V. YU. SHAVRUKOV, *Non-standard elements of r.e. sets.*

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We consider the Priestley dual $(\mathcal{E}^*)^*$ of the lattice \mathcal{E}^* of r.e. sets mod finite. Connections with non-standard elements of r.e. sets in models of 1st order true arithmetic as well as with dynamic properties of r.e. sets are pointed out. Illustrations include the Harrington–Soare dynamic characterization of small subsets, a model-theoretic characterization of promptly simple sets, and relations between the inclusion ordering of prime filters on \mathcal{E}^* (aka points of $(\mathcal{E}^*)^*$) and the complexity of their index sets.

The approach to \mathcal{E}^* via its dual is prompted by the study of the E -tree, the dual of the lattice of Σ_1 sentences modulo provability in an appropriate r.e. theory T . Along the way we note both similarities and differences between (the duals of) the two lattices.