▸ JOEL KUPERMAN, *A characterization of the partial orders associated to right-normal bands.*
FaMAF, Universidad Nacional de Córdoba, Medina Allende, Córdoba, Argentina.
E-mail: joel.kuperman@mi.unc.edu.ar.

The variety of bands (idempotent semigroups) and its subvarieties were studied by Gerhard in [1]. The equation $x \cdot y = x$ determines a preorder on algebras in this variety, and it is a partial order if and only if the algebras satisfy the additional condition $x \cdot y \cdot x = y \cdot x$. The subvariety of algebras satisfying this equation is the variety of right-regular bands (RRB). Semilattices, for example, form a subvariety of the right-regular bands. The partial order underlying the latter is well understood, but the same is not true for other subvarieties ([2]).

We consider the subvariety determined by bands satisfying the identity $x{\cdot}y{\cdot}z = y{\cdot}x{\cdot}z$. This is the variety of right-normal bands. We call the posets underlying right-normal bands *normal posets.* We present a result that characterizes normal posets in a purely order-theoretical manner and discuss some of the difficulties in obtaining a similar result for right-regular bands in general.

[1] James Arthur Gerhard, *The lattice of equational classes of idempotent semigroups*, ***Journal of algebra***, vol. 15 (1970), no. 2, pp. 195–224.

[2] Joel Kuperman, Alejandro Petrovich, Pedro Sanchez Terraf, *Definability of band structures on posets*, ***Semigroup forum***, vol. 109 (2024)), no. 3, pp. 537–557.