

Title: Bezout rings and Bezout semigroups

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Abstract: By the Jaffard-Ohm theorem, the semigroups of divisibility of Bezout domains (i.e., the multiplicative semigroups of principal ideals partially ordered by reverse inclusion) are exactly the positive cones of lattice-ordered abelian groups. For Bezout rings with zero divisors or rings of a similar nature (for which elementary divisor rings and rings of the continuous real-valued functions on certain completely regular spaces yield many examples), the semigroups of divisibility are far more complicated. We define Bezout semigroups (certain lattice-ordered commutative monoids with zero), which are candidates for being the semigroups of divisibility of Bezout rings, and develop a structure theory for them. In particular, semi-hereditary Bezout semigroups can be represented as semigroups of divisibility of semi-hereditary Bezout rings.

*(joint work with Pham Ngoc Anh and Peter Vámos,
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