DIRECTED PARTIAL ORDERS OVER NON-ARCHIMEDEAN FIELDS

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Abstract. Let F be a non-archimedean linearly ordered field, and $C = F + F\sqrt{-1}$. In this talk, we classify all directed partial orders on C with $1 > 0$ via bounded semigroups of F^+ and those with $1 \not> 0$ via special convex subsets of F^+. We note that none of these directed partial orders is a lattice order on C, which gives the Birkhoff-Pierce problem a negative answer in this case.(Joint with Jingjing Ma and liusan Wu)

References

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