

On the dynamics of the a -map over residually finite Dedekind Domains

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Let \mathcal{D} be a residually finite Dedekind Domain, $a \in \mathcal{D}$ and \mathfrak{n} a nonzero ideal of \mathcal{D} . In this talk, we discuss the dynamics of the a -map

$$\Gamma_a : x \mapsto a \cdot x \pmod{\mathfrak{n}}$$

over the quotient ring \mathcal{D}/\mathfrak{n} . We focus on the proof of the main result in [1], that provides the complete description of the so called *functional graph* associated to Γ_a over \mathcal{D}/\mathfrak{n} . If time permits, we present a nice application.

References

- [1] C. QURESHI AND L. REIS, *Dynamics of the a -map over residually finite Dedekind Domains and applications*, Journal of Number Theory (2019, to appear).