

On the relation between perfectoidisation and p -root closure

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Perfectoidization was introduced by Bhatt-Scholze as a mixed characteristic analogue of the perfection of rings of positive characteristic. On the other hand, the notion of p -root closure was introduced into commutative ring theory by Roberts. This is a simple closure operation that existed before the appearance of perfectoid rings, and is closely related to the structure of the Fontaine ring (now often called a tilting). In this talk, I will discuss the relationship between these two operations. In particular, I will show that a certain perfectoidization coincides with the p -adic completion of the p -root closure.

References

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