

## 数論セミナー

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Title: Critical curves of a piecewise linear map

We study the family of piecewise linear maps  $F$  of  $R^2$ , where  $F(x, y) = (ax - y, x)$  if  $(x, y)$  is in the right half plane and  $F(x, y) = (bx - y, x)$  otherwise. We consider algebraic curves in the parameter space  $(a, b)$  in  $R^2$ , defined by the condition that the positive or negative ordinate semiaxis be sent by  $F$  to the opposite one through a prescribed symbolic trajectory. These curves, called critical curves, correspond to the occurrence of Sturmian-type words in the symbolic dynamics. We present some algebraic and geometrical properties of the critical curves.

This is joint work with John A. G. Roberts and Franco Vivaldi. A preprint is available at <https://arxiv.org/abs/2104.07197>

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