

ANDREY MOROZOV

On the computability with infinite time Blum–Shub–Smale machines¹

Sobolev Institute of Mathematics and Novosibirsk State University, Novosibirsk, Russia

E-mail: morozov@math.nsc.ru

We study the computability over the reals given by Blum–Shub–Smale machines working in ordinal time: it is allowed to execute a limit step α provided that all the values in its registers converge to finite limits as time tends to α ; after it we can execute one more step, etc. The basic facts about this computability as well as its specific properties are presented. We also discuss the adequacy of this approach to analysis.

¹ Joint work with Peter Koepke.