



A QUASI-VARIATIONAL STRUCTURE OF NONLOCAL TYPE IN ELASTOPLASTICITY WITH KINEMATIC HARDENING

Dedicated to Professor Nobuyuki Kenmochi on the occasion of his 80th birthday

YOSHIHO AKAGAWA

Department of Mathematics, Faculty of Education, Kyoto University of Education
1 Fujinomori, Fukakusa, Fushimi-ku, Kyoto 612-8522 Japan
(E-mail: akagawa@kyokyo-u.ac.jp)

TAKESHI FUKAO

Faculty of Advanced Science and Technology, Ryukoku University
1-5 Yokotani, Seta Oe-cho, Otsu-shi, Shiga 520-2194, Japan
(E-mail: fukao@math.ryukoku.ac.jp)

and

RISEI KANO

Faculty of Education, Kochi University
2-5-1 Akebono-cho, Kochi 780-8520, Japan
(E-mail: kano@kochi-u.ac.jp)

Abstract. This paper investigates the well-posedness of a quasi-variational inequality that describes an elastoplasticity model with linear kinematic strain-hardening. The constraint set has a time-nonlocal dependence on the unknown strain. It corresponds to the history of the strain, and is derived naturally from the Visintin model. The Banach fixed point theorem can be applied to prove the existence and the uniqueness of a weak solution of the quasi-variational inequality. The continuous dependence can also be proven by a standard method.

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