

DIFFERENT NANOSCALE ZERO VALENT IRONS FOR NITRATE-POLLUTED WATER REMEDIATION

Khalil, Ahmed M. E.

Earth System Science and Technology, Interdisciplinary Graduate School of Engineering Sciences, Kyushu University

Eljamal, Osama

Earth System Science and Technology, Interdisciplinary Graduate School of Engineering Sciences, Kyushu University

Matsunaga, Nobuhiro

Earth System Science and Technology, Interdisciplinary Graduate School of Engineering Sciences, Kyushu University

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Ahmed M. E. Khalil, Osama Eljamal, Nobuhiro Matsunaga

Earth System Science and Technology (ESST), Interdisciplinary Graduate School of Engineering Sciences (IGSES), Kyushu University, Co-author's email: ahmed.m.khalil.382@s.kyushu-u.ac.jp

Abstract: *In this study, four nanoscale zero valent iron (NZVI) types were characterized and compared for nitrate removal from water. Through batch experiments, it was observed that old-purchased iron (OP-NZVI) had very low nitrate removal efficiency (10%) for more than 8 hours. Treated iron (T-NZVI) removed approximately half of nitrate concentration within 3 hours. Synthesized iron (S-NZVI) successfully reduced the whole amount of nitrate in one hour. Meanwhile, the improved iron (I-NZVI) removed the same amount within 20 minutes, which indicated the highest performance among other NZVIs.*