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R-parity violating supersymmetric contribution to the nuclear beta decay NODOKA YAMANAKA, TORU SATO, TAKAHIRO KUBOTA, Osaka University — The R-parity violating supersymmetric extension of the Standard Model is known to contribute to the neutron beta decay by the scalar coupling of the hadron and lepton currents. Among its decay distribution, the Fierz interference term and the coefficient of the triple product of the initial neutron's polarization, the momentum and polarization of the emitted electron, are observables sensitive to the scalar coupling. We investigate them within R-parity violating MSSM by constructing the hadronic matrix elements and find that new bounds on the R- violating couplings can be deduced from recent new measurement of the transverse polarization of the final electron. We also find contributions to additional angular correlation coefficients.

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