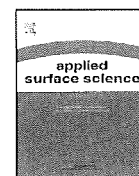




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## SIMS depth profile analysis of sodium in silicon dioxide

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### ABSTRACT

The depth profile analysis of sodium in SiO<sub>2</sub> matrix using secondary ion mass spectrometry (SIMS) has been examined. Q-SIMS (SIMS with a quadrupole mass analyzer: PHI ADEPT1010) was utilized as the measurement apparatus, because the absolute extraction voltage of the analyzer is typically lower than that of the sector type. As a result, the adequate sodium profile could be obtained under the optimized condition with the use of Cs<sup>+</sup> as the primary beam, the lower absolute extraction voltage of secondary ion, and the lower electron beam voltage. Under this condition, it was found that the sodium was implanted deeper in the SiO<sub>2</sub> thin film than that in SiO<sub>2</sub> glass.

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