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Note generali	"Doctoral thesis accepted by the University of Bristol, Bristol, UK".
Nota di contenuto	An Introduction to the Fukushima Daiichi Nuclear Power Plant and Accident -- Response, contamination and Release Estimates -- Field-based Methods -- Samples and Preparation -- Experimental Methods -- Contamination Deposition, Transportation and Remediation -- Particulate Distribution -- Uranium Particulate Analysis -- Structural and Compositional Analysis of Ejecta Material -- Spectroscopy and Isotopic Analysis of Ejecta Material -- Conclusions and future work -- Appendix.
Sommario/riassunto	This PhD sought to determine the mechanisms for the reactor explosions by mapping, collecting and analysing samples from across the area of Japan that received radioactive fallout from the explosions. In doing this, the author conducted significant fieldwork in the restricted-access fallout zone using ground and novel UAV-based

mapping of radiation to identify hot-spot areas for sample collecting but also using these tools to verify the efficacy of the clean-up operations ongoing in the prefecture. Such fieldwork was both technically pioneering for its use of UAVs (drones) but also selfless in terms of bravely entering a nuclear danger area to collect samples for the greater benefit of the scientific community.