## Preface

A French mathematician René Thom, the founder of singularity theory, and a Japanese mathematician Heisuke Hironaka, the discoverer of the method of resolutions of singularities, were both awarded Fields Medals. After their distinguished works, French and Japanese mathematicians have continued to successfully develop research on singularities. In this regard there has been an excellent relationship between French and Japanese researchers. Numerous researchers have been exchanged and thereby research in the area of singularities has been stimulated in both countries. These activities were supported by JSPS (Japan Society for the Promotion of Science) and CNRS (Centre National de la Recherche Scientifique).

In particular, the following conferences were supported by JSPS and CNRS.

First Franco-Japanese Symposium on Singularities, July 5–10, 1998 at Sapporo

Second Franco-Japanese Symposium on Singularities, September 9–13, 2002, Marseille

Third Franco-Japanese Symposium on Singularities, September 13–17, 2004, Sapporo

Fourth Franco–Japanese Symposium on Singularities, August 27–31, 2007, Toyama.

This issue is the proceedings of the fourth Franco–Japanese Symposium on Singularities and the workshop on Singularities held in Niigata prior to the fourth Franco–Japanese Symposium.

On behalf of the editors of this issue, I would like to express our hearty thanks to the JSPS, the CNRS, and to all contributors for the proceedings and the participants of the conferences.

Tokyo, April 2009 Shihoko Ishii

All papers in this volume have been referred and are in final form. No version of any of them will be submitted for publication elsewhere.