

Acknowledgements

Many people contributed with their advices, suggestions, valuable discussions, and researches to this dissertation. In this occasion, I would like to express my unlimited gratitude to:

- Prof. Dr. -Ing. Carl Gerstenecker, my supervisor, who gave good advice, guided me through the project with such patience.
- Prof. Dr. -Ing. Bernhard Paul Wrobel, who reviewed my dissertation.
- Dr. Kirbani Sri Brotopuspito, executive director QUE (Quality of Under Graduate Education) project, who gave the grant of scholarship and the opportunity for continuing my studies.
- Dip.-Ing. Gwendolyn Läufer, who discussed valuable things, guided me since the first time I came to Germany so I can enjoy live in Darmstadt.
- Dr. -Ing. Elias Lewi, who discussed with me about gravity modeling.
- Dipl. -Ing. Dieter Steineck and Frau Blessing, for their support and encouragement to make my stay in Darmstadt much easier.
- My parent, Sunarso and Suyati, for the dedicated support and encouragement throughout my education.
- My sister and brother, Ety Sunarni and Anang Sulistiyanto, for the morals encouragement.
- My wife, Luluk Rohani, for her incredible patience during my stay in Germany.
- My children, Amalia Fajar Ariani, Almas Kurnia Ramadhani, Fariz Harisudin Dharmawan, for their unstinting encouragement and support.
- I am also indebted to World Bank, for the grant of scholarship.

Thank you