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Nota di contenuto	Intro -- Zusammenfassung -- Abstract -- Chapter 1 Introduction -- 1.1 Motivation -- 1.2 Structure of this work -- Chapter 2 Theoretical and experimental background -- 2.1 Electrochemical cells -- 2.2 Lithium ion battery -- 2.3 Lithium metal battery -- 2.4 Solid polymer electrolytes -- 2.5 Instrumentation and techniques -- Chapter 3 Lithium deposition in Li-ion and Li-metal cells -- 3.1 Kinetics study to predict Li plating in a Li-ion cell -- 3.2 Influence of temperature and electrolyte on Li deposition -- Chapter 4 Solid polymer electrolytes -- 4.1 Manufacturing of the PEO solid electrolyte -- 4.2 Manufacturing of the cathode -- 4.3 Passivation layers -- 4.4 Cell assembly -- 4.5 Electro and physicochemical characterization -- Chapter 5 Result and discussion on lithium deposition study in Li-ion and Li-metal cells -- 5.1 Kinetics study to predict Li plating -- 5.2 Influence of temperature and electrolyte on Li deposition -- Chapter 6 Investigation on PEO-based SPEs -- 6.1 PEO/LiTFSI membranes -- 6.2 PEO/LiTFSI/passive-ceramics membranes -- 6.3 Stability versus NMC cathode -- 6.4 Coulombic efficiency -- 6.5 Discussion and conclusion -- Chapter 7 Conclusion -- List of Tables -- List of Figures -- Bibliography -- Publications -- Acknowledgment.

