1. Record Nr. UNINA9910298531903321 Autore Tangian Andranik Titolo Mathematical theory of democracy / / Andranik Tangian Pubbl/distr/stampa New York, : Springer, 2013 3-642-38724-1 **ISBN** Edizione [1st ed. 2014.] Descrizione fisica xx, 615 p Studies in Choice and Welfare, , 1614-0311 Collana 321.8 Disciplina Soggetti Political science **Democracy** Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Includes index. History: Athenian Democracy -- Echoes of Democracy in Ancient Rome Nota di contenuto -- Revival of Democracy in Italian Mediaval City-Republics --Enlightenment and the End of Traditional Democracy -- Modernity and Schism in Understanding Democracy -- Theory: Direct Democracy --Dictatorship and Democracy -- Representative Democracy --Statistically Testing the Representative Capacity -- Concluding Discussion: Bridging Representative and Direct Democracies --Applications: Simple Applications -- Application to Collective Multicriteria Decisions -- Application to Stock Exchange Predictions --Application to Traffic Control -- Appendix: Computational Formulas --Probabilities of Unequal Choices by Vote and by Candidate Scores --Statistical Significance of Representative Capacity. Sommario/riassunto The mathematical theory of democracy deals with selection of representatives who make decisions on behalf of the whole society. In this book, the notion of representativeness is operationalized with the index of popularity (the average percentage of the population whose opinion is represented on a number of issues) and the index of universality (the frequency of cases when the opinion of a majority is represented). These indices are applied to evaluate and study the properties of single representatives (e.g. president) and representative bodies (e.g. parliament, magistrate, cabinet, jury, coalition). To bridge

representative and direct democracy, an election method is proposed that is based not on voting but on indexing candidates with respect to

the electorate's political profile. In addition, societal and non-societal applications are considered.