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★**Discrete oscillation theory.**

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This book is devoted to a survey of the recent developments in the rapidly expanding area of oscillation of solutions of difference equations along with comparisons and contrasts with the continuous analogues. The book (961 pages with 293 references!!) covers a wide range of topics in its nine chapters.

Chapter 1 (by far the longest) covers oscillation theory for second-order linear difference equations, and introduces the Reid roundabout theory (i.e., the variational approach), the Riccati technique, averaging ideas, and dominant/recessive solutions along with limit point results. Chapter 2 is devoted to a detailed study of oscillation theory of difference equations, discrete Hamiltonian systems, and a consideration of many of the topics in Chapter 1 for difference systems. Chapter 3 considers oscillation theory for half-linear difference equations, again using both variational and Riccati techniques. The next two chapters deal with various topics in nonlinear difference equations, with a discussion of sublinear, superlinear, monotonicity, and Liapunov methods. Chapters 6 and 7 treat equations with deviating arguments and equations of neutral type, respectively, and Chapter 8 deals with stability and oscillation theory for equations with piecewise constant arguments. The final chapter considers various topics such as delay difference equations with positive and negative coefficients, linearized oscillations, and oscillation of recursive sequences.

This is truly a compendium of many different results, all having a relation in some way to results which may or may not be fairly well known for the continuous case. One of the very useful features of this book is the discussion at the end of each chapter of the results presented and references to the original sources, as far as the authors are aware. Moreover, the authors have included a large number of examples throughout which serve to illustrate the many and varied results which are obtained.

All of the authors are very well known in oscillation theory and have all contributed a great deal to this area. It is indeed a useful addition to the literature to have such a comprehensive survey of the area and to point the direction to new results. It will serve as a valuable reference in the area for many years to come.

Reviewed by *L. Erbe*