Record Nr. Autore	UNINA9910392743203321 Pai Venketeswara
Titolo	Karaapaddhati of Putumana Somayj / / by Venketeswara Pai, K. Ramasubramanian, M.S. Sriram, M.D. Srinivas
Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2018
ISBN	981-10-6814-3
Edizione	[1st ed. 2018.]
Descrizione fisica	1 online resource (486 pages)
Collana	Sources and Studies in the History of Mathematics and Physical Sciences, , 2196-8810
Disciplina	520.954
Soggetti	Mathematics History
	Observations, Astronomical
	Astronomy—Observations
	History of Mathematical Sciences Astronomy, Observations and Techniques
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Chapter 1. Mean planets and the akbdasaskra Chapter 2. Obtaining smaller guas and hras Chapter 3. Computation of the khaa, dhruva, etc. of the Moon Chapter 4. Obtaining the hrakas for the planets Chapter 5. Examination of the revolution numbers etc Chapter 6. Relation between the circumference and the diameter and computation of Rsines Chapter 7. Obtaining the planetary longitudes Chapter 8. Gnomonic shadow Chapter 9. Ascendent at the meridian transit Chapter 10. Obtaining the Right Ascension, etc.
Sommario/riassunto	Karaapaddhati of Putumana Somayj is an important text of the Kerala School of astronomy and mathematics, probably composed in the 16th century. In the Indian astronomical tradition, the karaa texts are essentially computational manuals and they often display a high level of ingenuity in coming up with simplified algorithms for computing planetary longitudes and other related quantities. Karaapaddhati, however, is not a karaa text. Rather, it discusses the paddhati or the rationale for arriving at suitable algorithms that are needed while preparing a karaa text for a given epoch. Thus the work

1.

is addressed not to the almanac maker but to the manual maker. Karaapaddhati presents the theoretical basis for the vkya system, where the true longitudes of the planet are calculated directly by making use of certain auxiliary notions such as the khaa, maala and dhruva along with tabulated values of changes in the true longitude over certain regular intervals which are expressed in the form vkyas or mnemonic phrases. The text also discusses the method of vallyupasahra which is essentially a technique of continued fraction expansion for obtaining optimal approximations to the rates of motion of planets and their anomalies, involving ratios of smaller numbers. It also presents a new fast convergent series for which is not mentioned in the earlier works of the Kerala School. As this is a unique text presenting the rationale behind the vkya system and the computational procedures used in the karaa texts, it would serve as a useful companion for all those interested in the history of astronomy. The authors have provided a translation of the text followed by detailed notes which explain all the computational procedures, along with their rationale, by means of diagrams and equations.