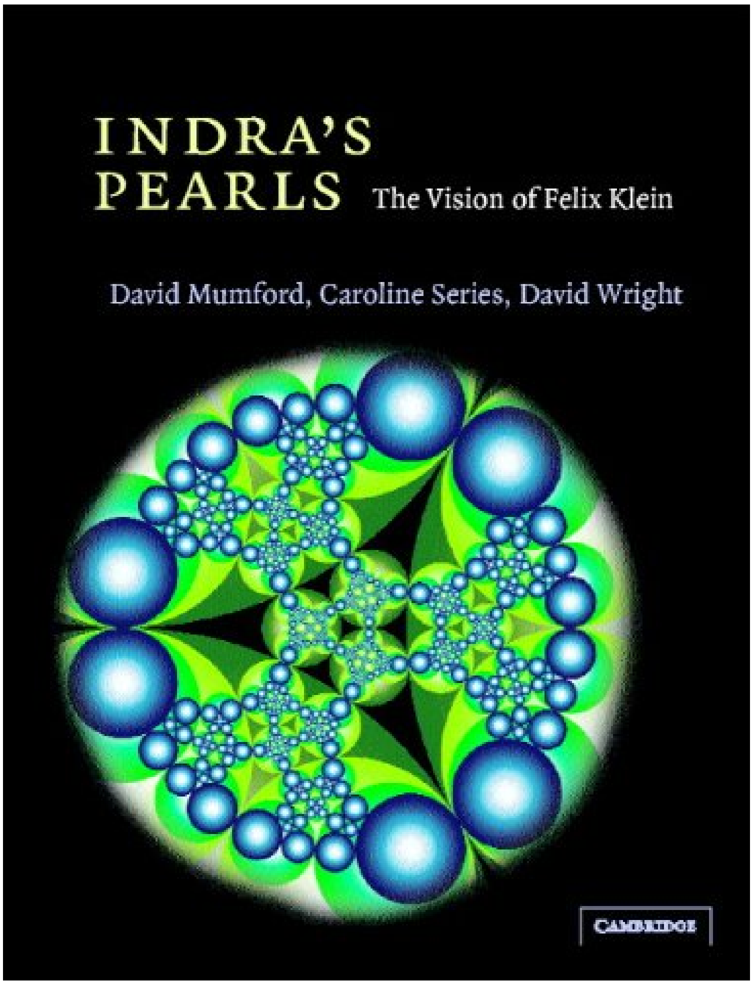
Indra's Pearls: The Vision of Felix Klein



Par David Mumford, Caroline Series, David Wright
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(Pdf free) Indra's Pearls: The Vision of Felix Klein

Par David Mumford, Caroline Series, David Wright : Indra's Pearls: The Vision of Felix Klein before purchasing it in order to gage whether or not it would be worth my time, and all praised Indra's Pearls: The Vision of Felix Klein:

Description :

Prsentation de l'diteurFelix Klein, one of the great nineteenth-century geometers, rediscovered in mathematics an idea from Eastern philosophy: the heaven of Indra contained a net of pearls, each of which was reflected in its neighbour, so that the whole Universe was mirrored in each pearl. Klein studied infinitely repeated reflections and was led to forms with multiple co-existing symmetries. For a century these ideas barely existed outside the imagination of mathematicians. However in the 1980s the authors embarked on the first computer exploration of Klein's vision, and in doing so found many further extraordinary images. Join the authors on the path from basic mathematical ideas to the simple algorithms that create the delicate fractal filigrees, most of which have never appeared in print before. Beginners can follow the step-by-step instructions for writing programs that generate the images. Others can see how the images relate to ideas at the forefront of research.Revue de presse'[This book is] richly illustrated with these wonderful and mysterious pictures and gives detailed instructions for recreating them, right down to the level of computer programs (written in pseudo-code, and easy to translate into any computer language) the reader who attempts any substantial subset of [the projects] will gain enormously Even those who are convinced they have no ability to visualize may change their minds It is almost required reading for the experts in the field I truly love this book.' John H. Hubbard, The American Mathematical Monthly'It has been a great pleasure to read such a gracefully written, original book of mathematics it is a flowing narrative, leavened with wit, whimsy, and lively cartoons by Larry Gonick. The three authors, with the support of Cambridge University Press, have produced a book that is as handsome in physical appearance as its content is stimulating and accessible. The book is an exemplar of its genre and a singular contribution to the contemporary mathematics literature.' Albert Marden, Notices (journal of the American Mathematical Society)'The production of the book leaves nothing to be desired. It is splendid. Printed entirely on glossy paper, with practically all of the many figures in glorious color, the book has a number of admirable design features: large type and wide margins wherein references are given and occasional comments (often quite talky) are made. Cambridge University Press has done a beautiful job, and David Tranah of the Press deserves special commendation for his role in pulling out all the stops.' Philip J. Davis, SIAM News'All of it is patiently explained By the time you finish, you'll know your way around the complex plane.' Brian Hayes, American Scientist'The book itself is a work of art I am sure that [it] will have a major impact on the way we teach geometry and dynamics a jewel that will more than repay the persistent reader's efforts.' Michael Field, Science'I rarely feel a certain kind of euphoria by just looking at the cover of a mathematics book. But that happened with Indra's Pearls: The Vision of Felix Klein [contains] fantastic illustrations together with apparently well-founded mathematical explanations [it is] presented in an accessible way which dares to prioritize general comprehension above a strict theoretical approach As far as I know, this book is one of the most beautiful examples of the illustration of the inherent aesthetic beauty (which exists) within mathematics the images are of the highest quality obtainable at present for mathematical structures. Everyone, who ever tried to create something comparable, knows how difficult it is.' Jrgen Richter-Gebert, Technische Universitt Mnchen'This unique book can serve as a pedagogical and visual introduction to group theory for schoolchildren, and yet is just as suitable for professional mathematicians: I believe that both of them would read the book from the beginning to the end. Finally, it can be used as a book for popularising science, but is very different from most fashionable books on strings, black holes, etc: it gives you the joy of seeing, thinking and understanding.' European Mathematical Society'This is a beautifully presented book, rich in mathematical gems.' The Mathematical Gazette'One can browse through the numerous beautiful and fascinating pictures and marvel at them Readers with widely different backgrounds will find something enjoyable in this unique book.' Acta Scientiarum MathematicarumPrsentation de l'diteurFelix Klein, one of the great nineteenth-century geometers, rediscovered in mathematics an idea from Eastern philosophy: the heaven of Indra contained a net of pearls, each of which was reflected in its neighbour, so that the whole Universe was mirrored in each pearl. Klein studied infinitely repeated reflections and was led to forms with multiple co-existing symmetries. For a century these ideas barely existed outside the imagination of mathematicians. However in the 1980s the authors embarked on the first computer exploration of Klein's vision, and in doing so found many further extraordinary images. Join the authors on the path from basic mathematical ideas to the simple algorithms that create the delicate fractal filigrees, most of which have never appeared in print before. Beginners can follow the step-by-step instructions for writing programs that generate the images. 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