Simulation of Surface Plasmon-Polaritons in FDTD: Derivation and Investigation

Ahmad Al-Jabr, Mohammad Alsunaidi

Simulation of Surface Plasmon-Polaritons in FDTD: Derivation and Investigation

Ahmad Al-Jabr, Mohammad Alsunaidi

Simulation of Surface Plasmon-Polaritons in FDTD: Derivation and Investigation Ahmad Al-Jabr, Mohammad Alsunaidi
Surace Plasmon-Polaritons (SPPs) are special form of electromagnetic (EM) waves that propagate in metallic nano-structure where EM waves can't propagate, overcoming the diffraction limit. Because of that, SPPs draw much attention of researchers from theoretical and experiential point of view. The finite difference time-domain (FDTD) is numerical method that is extensively used to simulate and study SPPs. In this book, The simulation of SPPs is explained step by step. Starting with Maxwell's equation, a new algorithm is derived and implemented. This algorithm is capable of handling many dispersion relations used to model metal in FDTD like Drude, Lorentze and Debye models. The algorithm can handle single-pole and multi-pole dispersion relations in the same manner. Due to the generality of this algorithm we called it the general algorithm. it is tested against analytical results and proved excellent accuracy. The algorithm is then used to simulate propagation of SPPs in metal using different models. Also, different structures and different cases were studied.

Download and Read Free Online Simulation of Surface Plasmon-Polaritons in FDTD: Derivation and Investigation Ahmad Al-Jabr, Mohammad Alsunaidi

---

From reader reviews:

Joe Bell:

In other case, little men and women like to read book Simulation of Surface Plasmon-Polaritons in FDTD: Derivation and Investigation. You can choose the best book if you love reading a book. Given that we know about how is important any book Simulation of Surface Plasmon-Polaritons in FDTD: Derivation and Investigation. You can add expertise and of course you can around the world by a book. Absolutely right, simply because from book you can understand everything! From your country until eventually foreign or abroad you will be known. About simple factor until wonderful thing you can know that. In this era, we could open a book or even searching by internet product. It is called e-book. You can utilize it when you feel fed up to go to the library. Let's read.

Theresa Adams:

What do you ponder on book? It is just for students as they are still students or this for all people in the world, the actual best subject for that? Just you can be answered for that concern above. Every person has different personality and hobby for each other. Don't to be obligated someone or something that they don't wish do that. You must know how great as well as important the book Simulation of Surface Plasmon-Polaritons in FDTD: Derivation and Investigation. All type of book would you see on many sources. You can look for the internet methods or other social media.

Michelle Fulk:

Reading a reserve can be one of a lot of action that everyone in the world really likes. Do you like reading book consequently. There are a lot of reasons why people enjoy it. First reading a guide will give you a lot of new details. When you read a publication you will get new information since book is one of a number of ways to share the information or maybe their idea. Second, reading a book will make you actually more imaginative. When you studying a book especially fiction book the author will bring one to imagine the story how the personas do it anything. Third, it is possible to share your knowledge to others. When you read this Simulation of Surface Plasmon-Polaritons in FDTD: Derivation and Investigation, you are able to tells your family, friends along with soon about yours publication. Your knowledge can inspire average, make them reading a guide.

Cynthia Tso:

The publication untitled Simulation of Surface Plasmon-Polaritons in FDTD: Derivation and Investigation is the book that recommended to you to study. You can see the quality of the publication content that will be shown to an individual. The language that article author use to explained their way of doing something is easily to understand. The article writer was did a lot of study when write the book, so the information that they share to you personally is absolutely accurate. You also could possibly get the e-book of Simulation of Surface Plasmon-Polaritons in FDTD: Derivation and Investigation from the publisher to make you

considerably more enjoy free time.

Read Simulation of Surface Plasmon-Polaritons in FDTD: Derivation and Investigation by Ahmad Al-Jabr, Mohammad Alsunaidi for online ebook

Simulation of Surface Plasmon-Polaritons in FDTD: Derivation and Investigation by Ahmad Al-Jabr, Mohammad Alsunaidi Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Simulation of Surface Plasmon-Polaritons in FDTD: Derivation and Investigation by Ahmad Al-Jabr, Mohammad Alsunaidi books to read online.

Online Simulation of Surface Plasmon-Polaritons in FDTD: Derivation and Investigation by Ahmad Al-Jabr, Mohammad Alsunaidi ebook PDF download

Simulation of Surface Plasmon-Polaritons in FDTD: Derivation and Investigation by Ahmad Al-Jabr, Mohammad Alsunaidi Doc

Simulation of Surface Plasmon-Polaritons in FDTD: Derivation and Investigation by Ahmad Al-Jabr, Mohammad Alsunaidi Mobipocket

Simulation of Surface Plasmon-Polaritons in FDTD: Derivation and Investigation by Ahmad Al-Jabr, Mohammad Alsunaidi EPub

Simulation of Surface Plasmon-Polaritons in FDTD: Derivation and Investigation by Ahmad Al-Jabr, Mohammad Alsunaidi Ebook online

Simulation of Surface Plasmon-Polaritons in FDTD: Derivation and Investigation by Ahmad Al-Jabr, Mohammad Alsunaidi Ebook PDF