开头句  
      In this paper we describe......  
      This paper presents......  
      This paper reports/experiments aimed at......  
      The author reports......  
      This study reports......  
      Investigations on ... were carried out.  
      The authors made observations on ...  
      Our project aims to study/survey/evaluate/determine

其基本要素包括研究目的,方法,结果和结论

摘要的四要素  
  
目的、方法、结果和结论称为摘要的四要素。  
  
（1）目的：指出研究的范围、目的、重要性、任务和前提条件，不是主题的简单重复。  
（2）方法：简述课题的工作流程，研究了哪些主要内容，在这个过程中都做了哪些工作，包括对象、原理、条件、程序、手段等。  
（3）结果：陈述研究之后重要的新发现、新成果及价值，包括通过调研、实验、观察取得的数据和结果，并剖析其不理想的局限部分。  
（4）结论：通过对这个课题的研究所得出的重要结论，包括从中取得证实的正确观点，进行分析研究，比较预测其在实际生活中运用的意义，理论与实际相结合的价值。

%\chapter\*{Kurzfassung}

\chapter\*{Abstract}

\label{cha:kurzfassung}

Coupling fibers to photonic waveguides leads to normally severe energy loss at optical transmissions. This work aims to discuss the coupling interface between tapered and lensed fibers and photonic waveguides and promote the coupling ability. For this purpose the analysis is carried out by numerical simulations with the help of CST Microwave Studio\textregistered (CST MWS) and Matlab programs. \\

For this discussion simulations are carried out on following considerations, displacing the waveguide, changing material composition of the waveguide and reforming the waveguide structure. To work out the dependence of coupling efficiency on displacement of the waveguide the waveguide is shifted in a small range along X, Y and Z-Axis respectively. The dependence on material composition is reviewed by simulations in specified surrounding conditions or by changing the waveguide materials. The effect of the waveguide structure is determined by the use of two techniques, namely the taper technique and the lens technique. \\

Through the comparison of simulation results it can be concluded that changing waveguide material and the use of tapered or lensed waveguides leads to an enhancement of transmission usage.