《普通高等教育“十二五”规划教材》

图书基本信息

书名：《普通高等教育“十二五”规划教材 Fluid Mechanics流体力学》

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内容概要

《Fluid Mechanics流体力学(英语教学版)》为普通高等教育“十二五”规划教材。《Fluid Mechanics流体力学(英语教学版)》是针对普通高等院校机械类本科专业“工程流体力学”课程英汉双语教学编写的，主要内容包括流体性质、流体静力学、流体流动概念和基本方程组、流动阻力及流体力学的应用等。书中附录给出了常见度量衡和压强等英制单位制与国际单位制的换算、常见流体性质以及课程教学安排。为方便学生复习，《Fluid Mechanics流体力学(英语教学版)》还按书中出现的先后顺序，给出了主要关键词和大部分习题答案。《Fluid Mechanics流体力学(英语教学版)》可作为普通高等院校机械工程及其自动化、机械制造及其自动化、机械电子工程、材料成型及模具和车辆工程等专业教材，也可作为机械类和近机械类专业留学生的参考用书。

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章节摘录

版权页：插图：The gradually varied flow is defined as that on the flow section the angle fl between twostreamlines is very small or the radius of curvature R of each streamline is infinity as shown inFigure 3.17. All the flows which do not satisfy the qualifications is called therapidly variedflow （急变流） The flows at section a-a and section b-b in Figure 3.3 are thegradually varied flow. The flow at section 1-1 in Figure 3.3 is rapidly varied flow. The essenceof gradually varied flow is that: 1） the streamlines tend to be in the parallel beelines; 2） theacceleration is very small in the flow and the inertia force could be neglected; 3） the flowsection can be considered a plane surface and for this reason the flow section is commonlytaken as the cross section.In the flow section n-n of gradually varied flow, an element fluid column with area dA andlength dz is selected as the free body as shown in Figure 3.18. The upper surface of column iscoincident with the streamline ab and the lower surface with the streamline cd.t8 The elevationof the lower surface of column is the coordinate z. The pressure on the lower surface is p andthe pressure on the upper surface is p+dp. The velocity of fluid column is u. There are forcesacting on the column in the n-n direction not only the pressure force, but also the forcesincluding: 1） the weight of element fluid ,ogdAdz; 2） the centrifugal force of element fluid（pgdAdz/g） （u2/R）. According to the conditions of gradually varied flow, the curvature radius isinfinite, so the centrifugal force is very small, it could be neglected; 3） the surface forces ofelement fluid including the internal frictional force on the two end surfaces and pressure forceson the circumferential surface of column is orthogonal with the axis n-n, so there are nocomponents of them in the n direction.

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编辑推荐

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精彩短评

1、值得购买，物美价廉，质量很好
2、作为初学者，也就这样了！
3、包裹遲了2天寄到, 但包裝非常專業,我買一本薄書,它用一個硬盒包裝,上加氣泡膠墊 (誇了一点, 但專業.)

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