LECTURE NOTES

ON

WAVES AND INSTABILITIES IN PLASMAS

LIU CHEN

PLASMA PHYSICS LABORATORY AND
DEPARTMENT OF ASTROPHYSICAL SCIENCES
PRINCETON UNIVERSITY
PRINCETON, NEW JERSEY

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by Liu Chen

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TO SHINGSHAH AND PEIJIN

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PREFACE

These notes have been given over the past several years in an one-semester course to second-year graduate students in the Plasma Physics Section of the Department of Astrophysical Sciences of Princeton University. The students generally have (or assumed to have) some basic knowledge of plasma dynamics in terms of single-particle and fluid descriptions. The topics covered in these notes, therefore, are selective and tend to emphasize more on kinetic-theory approaches to waves and instabilities in both uniform and nonuniform plasmas.

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