

Cambridge University Press

978-0-521-73955-9 - Smooth Compactifications of Locally Symmetric Varieties, Second Edition

Avner Ash, David Mumford, Michael Rapoport and Yung-Sheng Tai

Table of Contents

[More information](#)

## Contents

<i>Preface to the second edition</i>	<i>page</i> vii
<i>Preface to the first edition</i>	ix
<b>I Basics on torus embeddings; examples</b>	<b>1</b>
1 Torus embeddings over the complex numbers	1
2 The functor of a torus embedding	7
3 Toroidal embeddings over the complex numbers	9
4 Compactification of the universal elliptic curve	14
5 Hirzebruch's theory of the Hilbert modular group	25
<b>II Polyhedral reduction theory in self-adjoint cones</b>	<b>37</b>
1 Homogeneous self-adjoint cones	38
2 Jordan algebras	43
3 Boundary components and Peirce decompositions	51
4 Siegel sets in self-adjoint cones	67
5 Cores and co-cores	75
6 Positive-definite forms in low dimensions	90
<b>III Compactifications of locally symmetric varieties</b>	<b>97</b>
1 Tube domains and compactification of their cusps	97
2 The structure of bounded symmetric domains	105
3 Boundary components	123
4 Siegel domains of the third kind	142
5 Statement of the Main Theorem	159
6 Proof of the Main Theorem	164
7 An intrinsic form of the Main Theorem	176
<b>IV Further developments</b>	<b>189</b>
1 Extension of differential forms to the cusps	189
2 Projectivity of $D/\bar{\Gamma}$	199
<i>Supplementary Bibliography</i>	215
<i>Index</i>	229