

International Symposium Tunnelling for Water Resources and Power Projects

19-23 January 1988
New Delhi, India

Proceedings
Volume 1

Sponsored and Organised by



**Central Board of Irrigation and Power.
Malcha Marg, Chanakyapuri
New Delhi 110021
India**

Co-sponsored by



**International Tunnelling Association (ITA)
109, Avenue S. Allende
69500 Bron/France**



A. A. BALKEMA/ROTTERDAM/1988



Contents

TECHNICAL SESSION I	
Engineering Classification of Rock Mass for Tunnelling	1
TECHNICAL SESSION II	
Planning, Investigation and Analysis of Tunnels	29
TECHNICAL SESSION III	
Geometric and Hydraulic Design of Tunnels	107
TECHNICAL SESSION IV	
Tunnelling, Stabilization and Support Systems	159
TECHNICAL SESSION V	
Lining for Power Tunnels	281
TECHNICAL SESSION VI	
Monitoring, Back Analysis and Case Histories	331
Index of Authors	403
Index of Papers	405