IFMIF (International Fusion Materials Irrradiation Facility): A High Intensity Deuteron Beam Application, M. MARTONE, Euratom-ENEA; T.E. SHANNON, University of Tennessee; H. KATSUTA, H. MAEKAWA, JAERI; R.A. JAMESON, LANL; A. MÖSLANG, Euratom-FZK; M.J. RENNICH , ORNL; V. TEPLYAKOV, IHEP -
This paper reports on the results of the Conceptual Design Activity (CDA) of the International Fusion Materials Irradiation Facility (IFMIF). IFMIF is proposed as an accelerator-based (D-Li) neutron irradiation facility to test and qualify fusion reactor materials up to end of life doses characteristic of a prototype commercial fusion reactor. Under the auspices of the International Energy Agency (IEA) an international team of specialists was set up at the end of 1994 to carry out the CDA of such a D-Li source. At the same time the minimum requirements of the facility to assure a meaningful development were defined by a Fusion Materials Expert Group. The CDA has been carried out by individuals from institutions in Europe, Japan, the United States and Russian Federation and completed over a 2-year period (1995-96). The Design and Cost Reports covering the results of the activity were published in December 1996. The Fusion Power Coordinating Committee (FPCC) of the IEA expressed appreciation for the results obtained and recommended further technical studies to complete the database for an engineering design and to reduce technical risks. Owing to this a two year Conceptual Design Evaluation (CDE) phase (1997-98) has been launched supported by the same CDA Team. The main features of the facility and some recent outcomes of the CDE phase will be reported.