

Study of Seismic Behavior of an Earth Dam with Sealing Walls: The Case of Kef Eddir's Dam, Tipaza, Algeria

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Abstract : In this article the study of the seismic response of an earth dam with sealing walls has been made by introducing the effect of the change of position and depth of the sealing wall and the effect of non-linear behavior of soil of the foundation by taking into account the variation of the viscous damping and shear modulus in each layer of soil on the seismic response of the dam. As a case study, we take the Algerian dam Kef-Eddir which lies in the far west of the territory of the Wilaya of Tipaza (wadi Eddamous), classified according to the RPA 2003 as a high seismicity zone (zone III). With a height of 71m above the foundation and a width of 478m. The seismic event applied to the rock, is the earthquake of Chenoua (29 October, 1989), with a magnitude $M_w=6$ that hit the region.

Keywords : earth dam, earthquake, sealing walls, viscous damping

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