Analysis of continuous curved girder-slab bridges

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Abstract: A static analysis of horizontally curved, continuous multigirder slab type bridge decks has been proposed using finite difference method in conjunction with the method of consistent deformation. The deck is idealized as a curved thin plate supported by flexible supports having both vertical and rotational flexibility. The proposed Levy-type series solution requires generation of linear equilibrium difference equations only along the central radial line of the deck, thus obviating the need of a large computational molecule. The simple repetitive algorithm for this method of analysis is an advantage in computer programming.