

Dynamic Properties of Proton Transfer in the Anharmonic-Interaction Hydrogen Bond Systems

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Abstract: We analyze the properties of the excited solitary-wave model in the case of anharmonic-interaction of heavy ionic lattice in hydrogen bond systems. In this case, some new phenomena appear. We find different types of solutions for the proton displacement and influences on the kinks and pulse solitary waves by numerical calculation. For each of them we have presented a direct relation with the effective potential of the system.

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Key words: hydrogen bond system, anharmonic interaction, solitary wave

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