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NOTE ON CERTAIN OPERATORS OF JACOBI FORMS OF HALF INTEGRAL WEIGHT

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Abstract: In this note we characterise two operators I_m and K_m. on the space of Jacobi forms of half-integral weight.

Keywords and Phrases: Modular forms, Jacobi forms, Operators.

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1. Introduction

In this note, we characterise certain operators I_m and K_m on the space of Jacobi forms of weight $k+1/2(k>1$ is an integer), index m and level 4. The operator I_m has been introduced in [2] and proved that it maps Jacobi forms of weight $k+1/2$, index m, level 4 into the space of Jacobi forms of weight $k+1/2$, index 1, level $4m$ and character χ_m - a real character mod m or $4m$ according as $m \equiv 1(mod\ 4)$ or $m \equiv 2, 3(mod\ 4)$. It is also known that, the operator I_m preserves the space of cusp forms. It has a connection with the Eichler-Zagier maps: $\phi|\mathbb{Z}_m := \phi|I_m\mathbb{Z}_1$ where ϕ is a Jacobi form of weight $k+1/2$, index m, level 4 and $\mathbb{Z}_m$ is the Eichler-Zagier map as in [2]. We first prove that the index changing operator I_m preserves the