

## Symplectic analogues of the Dirac and the twistor operators and their solution spaces on $\mathbb{R}^{2n}$ and $2n$ -dimensional tori.

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The symplectic Dirac and the symplectic twistor operators are Spin-symplectic analogues of the Dirac and the twistor operators in the (pseudo-)Riemannian Spin geometry. In particular, for standard symplectic space  $(\mathbb{R}^{2n}, \omega)$  there is a difference between the solution spaces of the symplectic twistor operator in the case  $n = 1$  respectively  $n > 1$ . The main technical tool used to determine these solution spaces, is based on the metaplectic Howe duality.

On the examples of  $2n$ -dimensional tori we demonstrate the effect of dependence of the solution spaces of the symplectic Dirac and the symplectic twistor operators on the choice of the metaplectic structure.