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SOME REMARKS ON THE MASLOV INDEX

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Abstract: It is a classical fact that the Kashiwara–Wall index of a triplet of Lagrangians in a symplectic space over a field $\Bbbk$ defines a 2-cocycle μ_{KW} on the associated symplectic group with values in the Witt group of $\Bbbk$. Moreover, modulo the square of the fundamental ideal this is a trivial 2-cocycle. In this work we revisit this fact from the viewpoint of the theory of Sturm sequences and Sylvester matrices developed by J. Barge and J. Lannes in [**1**]. We define a refinement by a factor of 2 of μ_{KW} and use the technology of Sylvester matrices to give an explicit formula for the coboundary associated to the mod I^2 reduction of the cocycle which is valid for any field of characteristic different from 2. Finally, we explicitly compute the values of the coboundary on standard elements of the symplectic group.

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