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We give a complete description of the anti-involutions that preserve the principal gradation of the algebra  $S_{q,N}$  of  $N \times N$  matrix quantum pseudodifferential operators and we describe the Lie subalgebras of its minus fixed points. We obtain, up to conjugation, two families of anti-involutions that show quite different results when  $n = N$  and  $n < N$ . Finally, we give a geometric realization of each of these anti-involutions and show their corresponding subalgebras are of classical type.

## References

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