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**Title:** Additive maps preserving semi-Fredholm operators with bounded ascent on  $\mathcal{B}(\mathcal{X})$

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Let  $\mathcal{X}$  be an infinite-dimensional complex Banach space, and  $\mathcal{B}(\mathcal{X})$  the algebra of all bounded linear operators on  $\mathcal{X}$ . In this paper, given any positive integer  $m$ , we characterize the surjective additive maps on  $\mathcal{B}(\mathcal{X})$  that preserve semi-Fredholm operators with ascent non-greater than  $m$  in both directions, and describe completely the structure of these maps.

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