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Quark scalar, axial and tensor charges in the Schwinger-Dyson formalism

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We evaluate the quark scalar, axial and tensor charges of the nucleon in the Schwinger-Dyson formalism. For the scalar charge, it is found that it is enhanced by the gluon dressing effect, and that it is a sensitive observable to the quark confinement. For the axial and tensor charges, it is found that the gluon dressing effect suppresses them. This result can be understood as the superposition of the spin flipped states of spin $1/2$ quark due to the emission/absorption of the gluon which carries spin 1.

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