Classification of LBV-star candidates in the Andromeda galaxy

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We present results of spectroscopic and photometric study of LBV (Luminous Blue Variable) candidates in the Andromeda galaxy. 20 targets in M31 galaxy from Massey's list carried out with the 6-m Russian telescope from 2012 to 2015 in the optical range. The photometric estimates in the IR range have been taken with Triplespec spectrograph at the 3.5-meter telescope at Apache Point Observatory. On the basis of these data and other archive photometric data we produce spectral energy distributions (SED) of these stars. Assuming that bolometric luminosity of LBV stars is constant (this property is inherent for LBV stars), we used SEDs to determine the stellar temperatures and radii in different states and the value of interstellar extinction. These data were used for classification of the stars for three subclass: LBV, [Be]-supergiants and supergiants (dormant LBV).