where $\omega(\delta)$ is normal majorant satisfying the condition $\int_0^l \frac{\omega(t)}{t}dt < +\infty$. Then the integral modulus of smoothness of the same order k for the derivative $\varphi'(e^{i\theta})$ of the function on the curve Γ satisfies the condition

$$\widehat{\omega}_k(\varphi'(e^{i\theta})),\delta) = O(\nu(\delta))(\delta \to 0)$$

where $\nu(\delta)$ is some integral majorant [2].

In partial case when integral modulus of smoothness $\widehat{\omega}_k(\tau(s)),\delta)$ of order k for the function $\tau(s)$ satisfies Holder condition $\widehat{\omega}_k(\tau(s)),\delta) = O(\delta^{\alpha})(\delta \to 0)$, $0 < \alpha < k$, then integral modulus of smoothness $\widehat{\omega}_k(\varphi'(e^{i\theta})),\delta)$ of the function $\varphi'(e^{i\theta})$ satisfies Holder condition $\widehat{\omega}_k(\varphi'(e^{i\theta})),\delta) = O(\delta^{\alpha})(\delta \to 0)$ with the same index α.

So, the local and integral moduli of smoothness of the derivative of conformal homeomorphism between the unit disk and simply connected domain bounded by the smooth Jordan curve satisfy the same condition as the local and integral moduli of smoothness for the tangent angles boundary curve.

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