

Neke poznate površi

- (1) ravan $Ax + By + Cz + D = 0$, $A^2 + B^2 + C^2 > 0$, $r(u, v) = r_0 + up + vq$, $-\infty < u, v < +\infty$,
 $r(\rho, \phi) = (\rho \cos \phi, \rho \sin \phi, 0)$, $0 \leq \rho < +\infty$, $0 \leq \phi < 2\pi$;
- (2) kružni cilindar $x^2 + y^2 = R^2$, $r(u, v) = (R \cos u, R \sin u, v)$, $0 \leq u < 2\pi$, $-\infty < v < +\infty$;
- (3) cilindrična površ $r(u, v) = (u, f(u), v)$, $-\infty < u, v < +\infty$, $r(u, v) = \alpha(u) + va$, $\alpha < u < \beta$, $-\infty < v < +\infty$;
- (4) konusna površ $r(u, v) = (1 - v)p + v\alpha(u)$, $a < u < b$, $-\infty < v < +\infty$;
- (5) pravolinijska površ ("ruled surface") $r(u, v) = \alpha(u) + v\beta(u)$, $a < u < b$, $-\infty < v < +\infty$;
- (6) sfera $x^2 + y^2 + z^2 = R^2$, $r(u, v) = (R \cos u \cos v, R \cos u \sin v, R \sin u)$, $-\frac{\pi}{2} \leq u < \frac{\pi}{2}$, $0 \leq v \leq 2\pi$;
- (7) elipsoid $\frac{x^2}{a^2} + \frac{y^2}{b^2} + \frac{z^2}{c^2} = 1$, $r(u, v) = (a \cos u \cos v, b \sin u \sin v, c \cos v)$, $0 \leq u < 2\pi$, $0 \leq v \leq \pi$;
- (8) jednograni hiperboloid $\frac{x^2}{a^2} + \frac{y^2}{b^2} - \frac{z^2}{c^2} = 1$, $r(u, v) = \left(\frac{a}{2} \left(u + \frac{1}{u} \right) \cos v, \frac{b}{2} \left(u + \frac{1}{u} \right) \sin v, \frac{c}{2} \left(u - \frac{1}{u} \right) \right)$,
 $u \neq 0$, $0 \leq v < \pi$;
- (9) dvograni hiperboloid $\frac{x^2}{a^2} + \frac{y^2}{b^2} - \frac{z^2}{c^2} = -1$, $r(u, v) = \left(\frac{a}{2} \left(u - \frac{1}{u} \right) \cos v, \frac{b}{2} \left(u - \frac{1}{u} \right) \sin v, \frac{c}{2} \left(u + \frac{1}{u} \right) \right)$,
 $u \neq 0$, $0 \leq v < \pi$;
- (10) rotacioni paraboloid $z = x^2 + y^2$, $r(u, v) = (u \cos v, u \sin v, u^2)$, $-\infty < u < +\infty$, $0 \leq v < 2\pi$;
- (11) eliptički paraboloid $z = \frac{x^2}{a^2} + \frac{y^2}{b^2}$, $r(u, v) = \left(u, v, \frac{u^2}{a^2} + \frac{v^2}{b^2} \right)$, $-\infty < u, v < +\infty$;
- (12) hiperbolički paraboloid $z = \frac{x^2}{a^2} - \frac{y^2}{b^2}$, $r(u, v) = \left(u, v, \frac{u^2}{a^2} - \frac{v^2}{b^2} \right)$, $z = xy$, $r(u, v) = (u, v, uv)$, $-\infty < u, v < +\infty$, $z = x^2 - y^2$, $z > 0$, $r(u, v) = (u \cosh v, u \sinh v, u^2)$;
- (13) torus $(x^2 + y^2 + z^2 + a^2 - b^2)^2 = 4a^2(x^2 + y^2)$, $r(u, v) = ((a + b \cos v) \cos u, (a + b \cos v) \sin u, b \sin v)$,
 $0 \leq u < 2\pi$, $0 \leq v < 2\pi$;
- (14) helikoid $r(u, v) = (u \cos v, u \sin v, v)$, $0 \leq u < R$, $-\infty < v < +\infty$;
- (15) pseudosfera $r(u, v) = \left(\cos u + \ln \tan \frac{u}{2}, \sin u \cos v, \sin u \sin v \right)$, $0 < u < \pi$, $0 \leq v < 2\pi$;
- (16) katenoid $r(u, v) = (\cos u \cosh v, \sin u \cosh v, v)$, $0 \leq u < 2\pi$, $-\infty < v < +\infty$;
- (17) Mebijusova traka $r(u, v) = \left((a + u \sin \frac{v}{2}) \cos v, (a + u \sin \frac{v}{2}) \sin v, u \cos \frac{v}{2} \right)$, $-\frac{a}{2} < u < \frac{a}{2}$, $0 \leq v \leq 2\pi$;
- (18) rotaciona površ $r(u, v) = (f(u) \cos v, f(u) \sin v, g(u))$, $u_1 \leq u \leq u_2$, $0 \leq v < 2\pi$;
- (19) majmunsko sedlo $r(u, v) = (u, v, u^3 - 3uv^2)$, $-\infty < u, v < +\infty$.