经纬度坐标转
转换公式此为北半球的中国地区计算方法
经纬度为 lon 为经度, lat 为纬度单位为度

φ为纬度λ为经度，此为弧度制

UTM 坐标为（E,N）
参数：a 为 wgs84 椭球体的长半轴，
e 为偏心率

E_0为纵轴移动量，N_0为横轴移动量

$$a = 6378.137$$
$$e = 0.0818192$$
$$k_0 = 0.9996$$
$$E_0 = 500$$
$$N_0 = 0$$

$$zone = (lon/6)\ \text{（取整）} + 31$$

$$\lambda_0 = (zone - 1) * 6 - 180 + 3$$
$$v = 1/\sqrt{1 - e^2 \sin^2 \varphi}$$
$$A = (\lambda - \lambda_0)\cos\varphi$$
$$T = \tan^2\varphi$$
$$C = \frac{e^2}{1 - e^2}\cos^2\varphi$$

$$s(\varphi) = (1 - \frac{e^2}{4} - \frac{3e^4}{64} - \frac{5e^6}{256})\varphi - (\frac{3e^2}{8} - \frac{3e^4}{32} - \frac{45e^6}{1024})\sin 2\varphi + (\frac{15e^4}{256} - \frac{45e^6}{1024})\sin 4\varphi - \frac{35e^6}{3072}\sin 6\varphi$$

$$E = (E_0 + k_0 av(A + (1 - T + C)\frac{A^3}{6} + \left(5 - 18T + T^2\right)\frac{A^5}{120})) * 1000 - 500000$$

$$N = (N_0 + k_0 a(s + v\tan\varphi(\frac{A^2}{2} + (5 - T + 9C + 4C^2)\frac{A^4}{24} + (61 - 58T + T^2)\frac{A^6}{720}))) 1000$$