1: **procedure** EPHEMERISPOSITION(x_s, y_s, z_s, E_{para}) ▷ E_{para} 星历参数

2: $\quad a \leftarrow (E_{para}.\sqrt{a})^2$

3: $\quad n \leftarrow \sqrt{\frac{\mu}{a^3}} + E_{para}.\Delta n$ ▷ μ 地球引力常数

4: $\quad t_k \leftarrow t - E_{para}.t_{0e}$ ▷ t 为待计算时刻

5: $\quad M \leftarrow E_{para}.M_0 + n\, t_k$ ▷ M 平近点角

6: $\quad$ sovling $E - e \sin E = M$ ▷ E 偏近点角

7: $\quad \sin \nu \leftarrow \frac{\sqrt{1 - E_{para}.e^2} \sin E}{1 - E_{para}.e \cos E}$ ▷ ν 真近点角

8: $\quad \cos \nu \leftarrow \frac{\cos E - E_{para}.e}{1 - E_{para}.e \cos E}$

9: $\quad \varphi \leftarrow \nu + E_{para}.\omega$ ▷ φ 维度

10: $\quad \delta\varphi \leftarrow E_{para}.C_{us} \sin(2\varphi) + E_{para}.C_{uc} \cos(2\varphi)$ ▷ $\delta\varphi$ 维度校正值

11: $\quad \delta r \leftarrow E_{para}.C_{rs} \sin(2\varphi) + E_{para}.C_{rc} \cos(2\varphi)$ ▷ δr 半径校正值

12: $\quad \delta i \leftarrow E_{para}.C_{is} \sin(2\varphi) + E_{para}.C_{ic} \cos(2\varphi)$ ▷ δi 倾角校正值

13: $\quad u \leftarrow \varphi + \delta\varphi$ ▷ u 经校正的维度值

14: $\quad r \leftarrow a(1 - E_{para}.e \cos E) + \delta r$ ▷ r 经校正的半径值

15: $\quad i \leftarrow E_{para}.i_0 + E_{para}.\frac{\mathrm{d}i}{\mathrm{d}t} t_k + \delta i$ ▷ i 经校正的倾角值

16: $\quad \Omega \leftarrow E_{para}.\Omega_0 + \left(E_{para}.\frac{\mathrm{d}\Omega}{\mathrm{d}t} - \omega_e\right) t_k - \omega_e E_{para}.t_{0e}$ ▷ Ω 经校正的升交点经度, ω_e 地球自转角度

17: $\quad x_p \leftarrow r \cos u$ ▷ x_p 轨道面 x 值

18: $\quad y_p \leftarrow r \sin u$ ▷ y_p 轨道面 y 值

19: $\quad x_s \leftarrow x_p \cos\Omega - y_p \cos i\ \sin\Omega$

20: $\quad y_s \leftarrow x_p \sin\Omega + y_p \cos i\ \cos\Omega$

21: $\quad z_s \leftarrow y_p \sin i$

22: **end procedure**