I) $d \ll r \quad \phi(r,\theta,t) = \frac{1}{4\pi\varepsilon_0}\left\{\frac{q_0 \cos\left(\omega\left(t+\frac{r_+}{c}\right)\right)}{r_+} - \frac{q_0 \cos\left(\omega\left(t+\frac{r_-}{c}\right)\right)}{r_-}\right\}$

$$\phi(r,\theta,t) = \frac{q_0}{4\pi\varepsilon_0}\left\{\frac{1}{r} * \left(1+\frac{d\cos\theta}{2r}\right) * \left[\cos\left[\omega\left(t+\frac{r}{c}\right)\right]\cos\left(\omega\frac{d}{2}\frac{1}{c}\cos\theta\right) - \sin\left(\omega\left(t+\frac{r}{c}\right)\right)\sin\left(\omega\frac{d}{2}\frac{1}{c}\sin\theta\right)\right] - \right.$$

$$\left. - \frac{1}{r} * \left(1-\frac{d}{2r}\cos\theta\right) * \left[\cos\left[\omega\left(t+\frac{r}{c}\right)\right]\cos\left(\omega\frac{d}{2}\frac{1}{c}\cos\theta\right) + \sin\left(\omega\left(t+\frac{r}{c}\right)\right)\sin\left(\omega\frac{d}{2}\frac{1}{c}\sin\theta\right)\right]\right\} =$$

$$= \frac{q_0}{4\pi\varepsilon_0}\frac{1}{r}\left\{\left[\cos\left(\omega\left(t+\frac{r}{c}\right)\right)\cos\left(\omega\frac{d}{2}\frac{1}{c}\cos\theta\right) - \sin\left(\omega\left(t+\frac{r}{c}\right)\right)\sin\left(\omega\frac{d}{2}\frac{1}{c}\cos\theta\right) - \right.\right.$$

$$\left. - \cos\left(\omega\left(t+\frac{r}{c}\right)\right)\cos\left(\omega\frac{d}{2}\frac{1}{c}\cos\theta\right) - \sin\left(\omega\left(t+\frac{r}{c}\right)\right)\sin\left(\omega\frac{d}{2}\frac{1}{c}\cos\theta\right)\right] +$$

$$+ \frac{d}{2}\cos\theta\left[\cos\left(\omega\left(t+\frac{r}{c}\right)\right)\cos\left(\omega\frac{d}{2}\frac{1}{c}\cos\theta\right) - \sin\left(\omega\left(t+\frac{r}{c}\right)\right)\sin\left(\omega\frac{d}{2}\frac{1}{c}\cos\theta\right) + \right.$$

$$\left.\left. + \cos\left(\omega\left(t+\frac{r}{c}\right)\right)\cos\left(\omega\frac{d}{2}\frac{1}{c}\cos\theta\right) + \sin\left(\omega\left(t+\frac{r}{c}\right)\right)\sin\left(\omega\frac{d}{2}\frac{1}{c}\cos\theta\right)\right]\right\} =$$

$$= \frac{q_0}{4\pi\varepsilon_0}\frac{1}{r}\left\{-2\sin\left(\omega\left(t+\frac{r}{c}\right)\right)\sin\left(\omega\frac{d}{2}\frac{1}{c}\cos\theta\right) + \frac{d}{2}\cos\theta * \right.$$

$$\left. * \cos\left(\omega\left(t+\frac{r}{c}\right)\right)\cos\left(\omega\frac{d}{2}\frac{1}{c}\cos\theta\right)\right\} =$$

$$= \frac{q_0}{4\pi\varepsilon_0}\frac{1}{r}\left\{\frac{d}{2}\cos\theta * \cos\left(\omega\left(t+\frac{r}{c}\right)\right) * \cos\left(\omega\frac{d}{2}\frac{1}{c}\cos\theta\right) - 2\sin\left(\omega\left(t+\frac{r}{c}\right)\right)\sin\left(\omega\frac{d}{2}\frac{1}{c}\cos\theta\right)\right\}$$