

### 5.8.4: Infinite Plane Lamina

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The field above an infinite uniform plane lamina of surface density  $\sigma$  is  $-2\pi G\sigma$ . Let A be a point at a distance  $a$  from the lamina and B be a point at a distance  $b$  from the lamina (with  $b > a$ ), the potential difference between B and A is

$$\psi_B - \psi_A = 2\pi G\sigma(b - a). \quad (5.8.14)$$

If we elect to call the potential zero at the surface of the lamina, then, at a distance  $h$  from the lamina, the potential will be  $+2\pi G\sigma h$ .

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