

depression









W E R + R R R

$d/ds = dv/ds + dv/dt \cdot dt/ds$





$$P_s \equiv \left. \frac{\partial t}{\partial h} \right|_s$$



$$S(s, p_s, \tau_s) \equiv \int d(s, r = s + h, t = \tau_s + p_s h) dh$$



$$d(s, r, t) \equiv \int \exp(i2\pi ft) \tilde{d}(s, r, f) df.$$



$$S(s, p_s, f_s) = \int \exp(-i2\pi f_s \tau_s) S(s, p_s, \tau_s) d\tau_s.$$

$$S(s, p_s, f_s) = \int \int \exp(-i2\pi f_s \tau_s) \exp(i2\pi f(\tau_s + p_s h)) \tilde{d}(s, r = s + h, f) dh df d\tau_s.$$

Spes, p, e,



$$\int \int \left\{ \int \exp[-i2\pi(f_s - f)\tau_s] d\tau_s \right\} \exp(i2\pi f p_s h) \tilde{d}(s, r = s + h, f) dh df$$

$$\int \{ \delta(f_s - f) \} \exp(i2\pi f p_s h) \tilde{d}(s, r = s + h, f) dh df$$

$$\int \exp(i2\pi f_s p_s h) \tilde{d}(s, r = s + h, f = f_s) dh.$$

deformation = exp(Δt) d d

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$$Y(y, p_y, \tau_y) \equiv \int d(s = y - h/2, r = y + h/2, t = \tau_y + p_y h) dh$$

$$P_y = \left. \frac{\partial t}{\partial h} \right|_y \cdot \bullet$$





$$\tilde{Y}(y, p_y, f_y) = \int \exp(i2\pi f_y p_y h) \tilde{d}(s = y - h/2, r = y + h/2, f = f_y) dh.$$





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$$\int_{-\infty}^{\infty} \exp(-i2\pi k_s s) \tilde{S}(s, p_s, f_s) ds$$

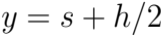
$$\int \int \exp(-i2\pi k_s s) \exp(i2\pi f_s p_s h) \tilde{d}(s, r = s + h, f = f_s) dh ds$$



$$(k_y, p_y, f_y) = \int \exp(-i2\pi k_y y) \tilde{Y}(y, p_y, f_y) dy$$

$$\int \int \exp(-i2\pi k_y y) \exp(i2\pi f_y p_y h) \tilde{d}(s = y - h/2, r = y + h/2, f = f_y) dh dy.$$

2019-2020
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$$\int \exp[-i2\pi k_y(s + h/2)] \exp(i2\pi f_y p_y h) \tilde{d}(s, r = s + h, f = f_y) ds dy$$

$$\int \exp(-i2\pi k_y s) \exp[i2\pi f_y h(p_y - k_y/2f_y)] \tilde{d}(s, r = s + h, f = f_y) ds dy$$

$$\tilde{S}(k_s = k_y, p_s = p_y - k_y/2, f_s = f_y).$$



$$-k_y/f_y = \frac{\partial \tau_y}{\partial y} \Big|_{p_y} = \frac{\partial t}{\partial y} \Big|_h .$$

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$$\left. \frac{\partial t}{\partial h} \right|_s = \left. \frac{\partial t}{\partial h} \right|_y + \frac{1}{2} \left. \frac{\partial t}{\partial y} \right|_h .$$