M9POELIP Circular and ellipticlly polarized light

To demonstrate of circular or elliptically polarized light turning "left or "right". Four graphs are shown, extending from **0 to 90, 0 to 160, 0 to 235, and 0 to 315 degrees**.

The angle ranges (x) correspond to chosen time ranges. Left and right polarized light is described by positive or negative $\Phi=\pi/2$ in one component: Positive Φ: We have y = Ey = A cos(-x), yy = Ez = Acos(-x +Φ) = -Asin(-x),

Negative Φ: We have y = Ey = A cos(-x), yy = Ez = Acos(-x -Φ) = Asin(-x), We write for Ez = bAsin(x). When looking in direction of the incoming light, "b = -1" is for "left" polarized light (counter clock wise), "b= 1" for "right" polarized light (clock wise).

$x1 := 1,2..90 \qquad x2 := 1,2..160 \qquad x3 := 1,2..235 \qquad b \equiv -1 \qquad x4 := 1,2..315$

$$y1(x1) := \cos\left(-2\cdot\pi\cdot\frac{x1}{360}\right) \qquad y2(x2) := \cos\left(-2\cdot\pi\cdot\frac{x2}{360}\right) \qquad y3(x3) := \cos\left(-2\cdot\pi\cdot\frac{x3}{360}\right)$$

$$yy1(x1) := b\cdot\sin\left(-2\cdot\pi\cdot\frac{x1}{360}\right) \qquad yy2(x2) := b\cdot\sin\left(-2\cdot\pi\cdot\frac{x2}{360}\right) \qquad yy3(x3) := b\cdot\sin\left(-2\cdot\pi\cdot\frac{x3}{360}\right)$$

$$y4(x4) := \cos\left(-2\cdot\pi\cdot\frac{x4}{360}\right) \qquad yy4(x4) := b\cdot\sin\left(-2\cdot\pi\cdot\frac{x4}{360}\right)$$