

# Particle spectrograph

## Wave operator and propagator

```
xAct`PSALTER`Private`GraphicsCollage[Join[xAct`PSALTER`Private`SplitWignerGrid[
xAct`PSALTER`Private`SavedWaveOperator], {AspectRatio → Automatic}], Join[411, {AspectRatio → Automatic},
{ xAct`PSALTER`Private`PrintSpectrum[
xAct`PSALTER`Private`SavedSpectrum,
xAct`PSALTER`Private`ShellType → xAct`PSALTER`Private`Massive]
xAct`PSALTER`Private`PrintSpectrum[
xAct`PSALTER`Private`SavedMasslessSpectrum,
xAct`PSALTER`Private`ShellType → xAct`PSALTER`Private`Massless]
}, {500}]]
```

## Massive and massless spectra

```
xAct`PSALTER`Private`GraphicsCollage[
xAct`PSALTER`Private`PrintSpectrum[
{ xAct`PSALTER`Private`SavedSpectrum,
xAct`PSALTER`Private`ShellType → xAct`PSALTER`Private`Massive]
xAct`PSALTER`Private`PrintSpectrum[
xAct`PSALTER`Private`SavedMasslessSpectrum,
xAct`PSALTER`Private`ShellType → xAct`PSALTER`Private`Massless]
}, Join[411,
{AspectRatio → Automatic}, { xAct`PSALTER`Private`PrintSpectrum[
xAct`PSALTER`Private`SavedSpectrum,
xAct`PSALTER`Private`ShellType → xAct`PSALTER`Private`Massive]
xAct`PSALTER`Private`PrintSpectrum[
xAct`PSALTER`Private`SavedMasslessSpectrum,
xAct`PSALTER`Private`ShellType → xAct`PSALTER`Private`Massless]
}, {500}]]
```

## Unitarity conditions

```
MaxwellTheory[xAct`PSALTER`Private`SavedOverallUnitarity]
```