downconversion

Process by which a photon with frequency $\nu_1$ interacts with a non-linear medium and splits into two simultaneously emitted photons with frequencies $\nu_2$ and $\nu_3$ so that the energy is conserved:

$$\nu_1 = \nu_2 + \nu_3$$

Notes:
1. Also known as a parametric downconversion.
2. The efficiency of the conversion process depends on the parametric gain in the non-linear material. This in turn depends on the power of the incident radiation, the photon frequencies, their indices of refraction in the material, and the non-linear 'hyper-susceptibility' of the material.

Source:
PAC, 2007, 79, 293 (Glossary of terms used in photochemistry, 3rd edition (IUPAC Recommendations 2006)) on page 326