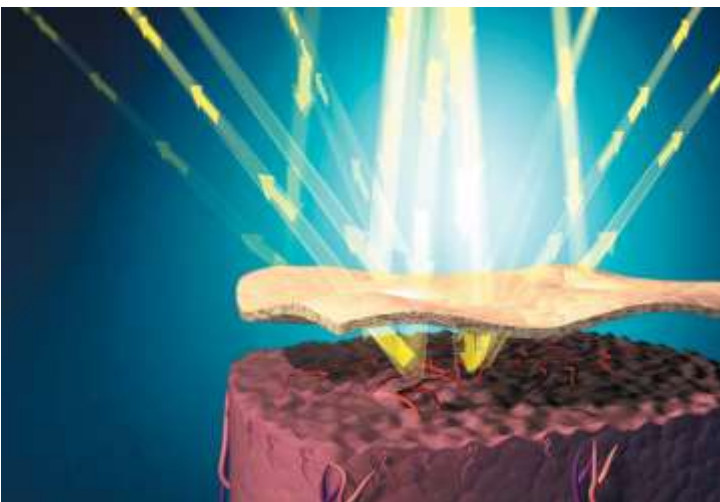


V300H and v900L Technical Basis

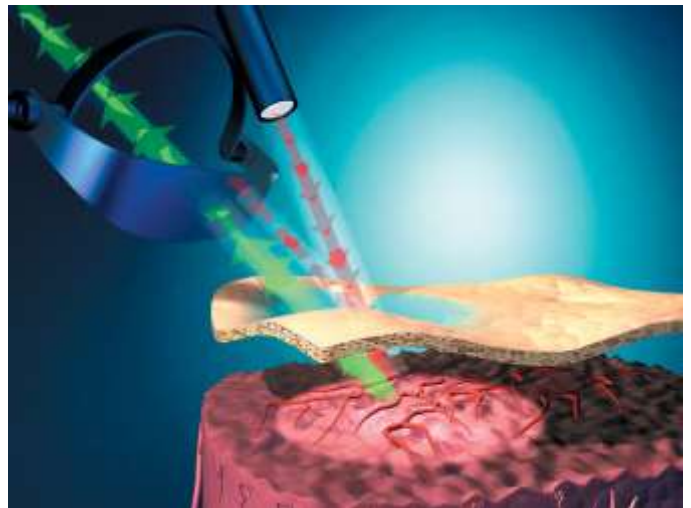
The physical basis for skin appearance is reflectance of light. Fundamentally, there are two processes that return light from the skin, and therefore two different components of skin reflectance. Each component carries different diagnostic information, but we normally see them mixed together. By separating the components of reflectance, the Syris v900L allows enhanced viewing into the skin, and of the skin surface.

When light encounters the skin surface, about 5% is reflected because the refractive index of skin is much higher than that of air. Similar to reflection off the surface of water, this component carries information only about the shape and texture of the skin surface. The remaining 95% of light enters the skin, where it encounters structures that either scatter or absorb the light. Some of the light is scattered back out of the skin. This back-scattered component carries all of the information about internal structures such as blood vessels, pigmentation, hair follicles, skin color, inflammation, etc. Polarization refers to the orientation of light waves. Back scattering scrambles polarization, whereas specular reflection does not. By using a polarized illuminating light combined with polarized viewing, the Syris v900L easily separates the two components of skin reflectance. With source and viewing polarizers crossed, the specular component is blocked, producing a greatly enhanced view below the skin surface. When the source and viewing polarizers are parallel, surface features such as texture, scale and wrinkles are enhanced.

This use of polarized light in dermatology was first described by R. Anderson in 1991 ("Polarized light examination and photography of the skin. Archives Dermatology 1991;127:1000-1005). Syris Scientific developed the concept into a practical examination system with precise, hands-free illumination. Fine procedures such as sclerotherapy are easier. Examination of pigmented and vascular lesions are enhanced.



Normal View



View with Syris Technology