

MULTI-COLOR FLUORESCENCE DETECTION DEVICE

ABSTRACT OF THE DISCLOSURE

The multi-color fluorescence detection device includes an illumination unit, a fluorescence chamber, a detection unit and an actuation unit. The fluorescence chamber is adapted for accommodating a fluorescent mixture. The illumination unit includes at least one light source and at least one first tunable filter, wherein the light source provides a broad band illumination, and the first tunable filter passes light at different pass bands to excite the fluorescent mixture based on locations or angles of the first tunable filter. The detection unit includes at least one second tunable filter and at least one photo-detector, wherein the second tunable filter passes light emitted from the fluorescent mixture at different pass bands based on locations or angles of the second tunable filter, and the photo-detector receives fluorescent signals and converts the fluorescent signals to electrical signals. The actuation unit is adapted for driving the first tunable filter and the second tunable filter to different locations or angles to control variations of pass bands for excitation and emission, respectively.

Fig. 1