

Charge Carrier-Exciton Interactions in Organic Light Emitting Devices (OLEDs)

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We use delayed electroluminescence measurements to study triplet-triplet-annihilation (TTA) phenomena in small molecule organic light emitting devices (OLEDs). The studies are conducted on blue and green-emitting OLEDs of various architectures, based on 9,10-bis (2-naphthyl)-2-t-butylanthracene and (TBADN) and tris(8-hydroxyquinoline) aluminum (AlQ3) electrofluorescent materials, respectively. Comparative investigations of co-host versus single host emitter systems shed the light on triplet-polaron interactions in electroluminescent molecular systems, and provide insights on luminescence quenching by space charges in OLEDs.

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