

Observable	Definition
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$A_K^{CP,\gamma}$	$\frac{\Gamma(B^- \rightarrow ([h^+ h^-]_D \gamma)_D^* K^-) - \Gamma(B^+ \rightarrow ([h^+ h^-]_D \gamma)_D^* K^+)}{\Gamma(B^- \rightarrow ([h^+ h^-]_D \gamma)_D^* K^-) + \Gamma(B^+ \rightarrow ([h^+ h^-]_D \gamma)_D^* K^+)}$
$A_K^{CP,\pi^0}$	$\frac{\Gamma(B^- \rightarrow ([h^+ h^-]_D \pi^0)_D^* K^-) - \Gamma(B^+ \rightarrow ([h^+ h^-]_D \pi^0)_D^* K^+)}{\Gamma(B^- \rightarrow ([h^+ h^-]_D \pi^0)_D^* K^-) + \Gamma(B^+ \rightarrow ([h^+ h^-]_D \pi^0)_D^* K^+)}$
$A_K^{K\pi,\gamma}$	$\frac{\Gamma(B^- \rightarrow ([K^- \pi^+]_D \gamma)_D^* K^-) - \Gamma(B^+ \rightarrow ([K^+ \pi^-]_D \gamma)_D^* K^+)}{\Gamma(B^- \rightarrow ([K^- \pi^+]_D \gamma)_D^* K^-) + \Gamma(B^+ \rightarrow ([K^+ \pi^-]_D \gamma)_D^* K^+)}$
$A_K^{K\pi,\pi^0}$	$\frac{\Gamma(B^- \rightarrow ([K^- \pi^+]_D \pi^0)_D^* K^-) - \Gamma(B^+ \rightarrow ([K^+ \pi^-]_D \pi^0)_D^* K^+)}{\Gamma(B^- \rightarrow ([K^- \pi^+]_D \pi^0)_D^* K^-) + \Gamma(B^+ \rightarrow ([K^+ \pi^-]_D \pi^0)_D^* K^+)}$
$R^{CP,\gamma}$	$\frac{\Gamma(B^- \rightarrow ([h^+ h^-]_D \gamma)_D^* K^-) + \Gamma(B^+ \rightarrow ([h^+ h^-]_D \gamma)_D^* K^+)}{\Gamma(B^- \rightarrow ([h^+ h^-]_D \gamma)_D^* \pi^-) + \Gamma(B^+ \rightarrow ([h^+ h^-]_D \gamma)_D^* \pi^+)} \times \frac{1}{R_{K/\pi}^{K\pi,\gamma/\pi^0}}$
$R^{CP,\pi^0}$	$\frac{\Gamma(B^- \rightarrow ([h^+ h^-]_D \pi^0)_D^* K^-) + \Gamma(B^+ \rightarrow ([h^+ h^-]_D \pi^0)_D^* K^+)}{\Gamma(B^- \rightarrow ([h^+ h^-]_D \pi^0)_D^* \pi^-) + \Gamma(B^+ \rightarrow ([h^+ h^-]_D \pi^0)_D^* \pi^+)} \times \frac{1}{R_{K/\pi}^{K\pi,\gamma/\pi^0}}$
$R_{K/\pi}^{K\pi,\gamma/\pi^0}$	$\frac{\Gamma(B^- \rightarrow ([K^- \pi^+]_D \gamma/\pi^0)_D^* K^-) + \Gamma(B^+ \rightarrow ([K^+ \pi^-]_D \gamma/\pi^0)_D^* K^+)}{\Gamma(B^- \rightarrow ([K^- \pi^+]_D \gamma/\pi^0)_D^* \pi^-) + \Gamma(B^+ \rightarrow ([K^+ \pi^-]_D \gamma/\pi^0)_D^* \pi^+)}$
$R_{K^-}^{\pi K,\gamma}$	$\frac{\Gamma(B^- \rightarrow ([K^+ \pi^-]_D \gamma)_D^* K^-)}{\Gamma(B^- \rightarrow ([K^- \pi^+]_D \gamma)_D^* K^-)}$
$R_{K^-}^{\pi K,\pi^0}$	$\frac{\Gamma(B^- \rightarrow ([K^+ \pi^-]_D \pi^0)_D^* K^-)}{\Gamma(B^- \rightarrow ([K^- \pi^+]_D \pi^0)_D^* K^-)}$
$R_{K^+}^{\pi K,\gamma}$	$\frac{\Gamma(B^+ \rightarrow ([K^- \pi^+]_D \gamma)_D^* K^+)}{\Gamma(B^+ \rightarrow ([K^+ \pi^-]_D \gamma)_D^* K^+)}$
$R_{K^+}^{\pi K,\pi^0}$	$\frac{\Gamma(B^+ \rightarrow ([K^- \pi^+]_D \pi^0)_D^* K^+)}{\Gamma(B^+ \rightarrow ([K^+ \pi^-]_D \pi^0)_D^* K^+)}$
$A_\pi^{CP,\gamma}$	$\frac{\Gamma(B^- \rightarrow ([h^+ h^-]_D \gamma)_D^* \pi^-) - \Gamma(B^+ \rightarrow ([h^+ h^-]_D \gamma)_D^* \pi^+)}{\Gamma(B^- \rightarrow ([h^+ h^-]_D \gamma)_D^* \pi^-) + \Gamma(B^+ \rightarrow ([h^+ h^-]_D \gamma)_D^* \pi^+)}$
$A_\pi^{CP,\pi^0}$	$\frac{\Gamma(B^- \rightarrow ([h^+ h^-]_D \pi^0)_D^* \pi^-) - \Gamma(B^+ \rightarrow ([h^+ h^-]_D \pi^0)_D^* \pi^+)}{\Gamma(B^- \rightarrow ([h^+ h^-]_D \pi^0)_D^* \pi^-) + \Gamma(B^+ \rightarrow ([h^+ h^-]_D \pi^0)_D^* \pi^+)}$
$A_\pi^{K\pi,\gamma}$	$\frac{\Gamma(B^- \rightarrow ([K^- \pi^+]_D \gamma)_D^* \pi^-) - \Gamma(B^+ \rightarrow ([K^+ \pi^-]_D \gamma)_D^* \pi^+)}{\Gamma(B^- \rightarrow ([K^- \pi^+]_D \gamma)_D^* \pi^-) + \Gamma(B^+ \rightarrow ([K^+ \pi^-]_D \gamma)_D^* \pi^+)}$
$A_\pi^{K\pi,\pi^0}$	$\frac{\Gamma(B^- \rightarrow ([K^- \pi^+]_D \pi^0)_D^* \pi^-) - \Gamma(B^+ \rightarrow ([K^+ \pi^-]_D \pi^0)_D^* \pi^+)}{\Gamma(B^- \rightarrow ([K^- \pi^+]_D \pi^0)_D^* \pi^-) + \Gamma(B^+ \rightarrow ([K^+ \pi^-]_D \pi^0)_D^* \pi^+)}$
$R_{\pi^-}^{\pi K,\gamma}$	$\frac{\Gamma(B^- \rightarrow ([K^+ \pi^-]_D \gamma)_D^* \pi^-)}{\Gamma(B^- \rightarrow ([K^- \pi^+]_D \gamma)_D^* \pi^-)}$
$R_{\pi^-}^{\pi K,\pi^0}$	$\frac{\Gamma(B^- \rightarrow ([K^+ \pi^-]_D \pi^0)_D^* \pi^-)}{\Gamma(B^- \rightarrow ([K^- \pi^+]_D \pi^0)_D^* \pi^-)}$
$R_{\pi^+}^{\pi K,\gamma}$	$\frac{\Gamma(B^+ \rightarrow ([K^- \pi^+]_D \gamma)_D^* \pi^+)}{\Gamma(B^+ \rightarrow ([K^+ \pi^-]_D \gamma)_D^* \pi^+)}$
$R_{\pi^+}^{\pi K,\pi^0}$	$\frac{\Gamma(B^+ \rightarrow ([K^- \pi^+]_D \pi^0)_D^* \pi^+)}{\Gamma(B^+ \rightarrow ([K^+ \pi^-]_D \pi^0)_D^* \pi^+)}$