

$$G(\omega) = \int d\mathbf{k} (\omega + \mu - H(\mathbf{k}) - \Sigma_c(\omega))^{-1}$$

$$G_b^{-1}(\omega) = \Sigma_c(\omega) + G^{-1}(\omega)$$

$$G_b^{-1}(\omega) = \omega + \mu - H_c - \Gamma [\omega - E]^{-1} \Gamma^\dagger$$

$$H_{\text{total}} = H_{\text{loc}} + \sum_{\mathbf{k}\mu\sigma} E_{\mathbf{k}\mu\sigma} a_{\mathbf{k}\mu\sigma}^\dagger a_{\mathbf{k}\mu\sigma} + \sum_{\mathbf{k}\mu\sigma} \Gamma_{\mathbf{k}\mu} a_{\mathbf{k}\mu\sigma}^\dagger c_{\mathbf{k}\mu\sigma} + \text{H.c.}$$

$$\Sigma_c(\omega) = G_b^{-1}(\omega) - G_c^{-1}(\omega)$$

DMFT at 25: Infinite Dimensions

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Forschungszentrum Jülich GmbH
Institute for Advanced Simulation

German Research School for
Simulation Sciences GmbH

**Lecture Notes of the Autumn School on
Correlated Electrons 2014**

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